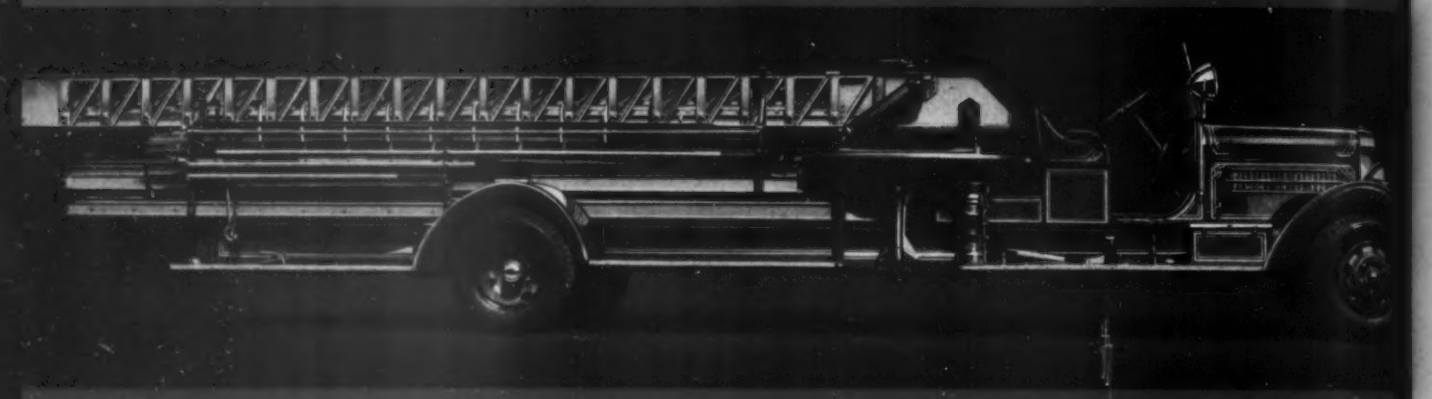
FIRE ENGINEERING

The Journal of Fire Protection Profession Since 1877

OCTOBER . 1937

The PIRSCH INTERMEDIATE AERIAL



AMERICA'S FIRST 100% POWERED SERVICE AERIAL LADDER TRUCK

IT HAS THE LIGHTEST AND STRONGEST 65' AERIAL LADDER

THE LADDER IS BUILT OF RUST-PROOF METAL ALLOY

IT IS EQUIPPED WITH HYDRO-MECHANICAL OPERATING MECHANISM, INCORPORATING AMERICA'S FIRST AND ORIGINAL HYDRAULIC AERIAL HOIST

IT IS EQUIPPED WITH MANUAL AUXILIARY RAISING AND OPERATING MECHANISM FOR ALL MANEUVERS

PIRSCH HYDRO-MECHANICAL AERIALS HAVE BEEN SOLD TO:

WASHINGTON, D.C. (5)
MINNEAPOLIS, MINN. (4)
MEMPHIS, TENN. (3)
ST. PAUL, MINN. (2)
SPOKANE, WASH.
LAWTON, OKLA.
CAMBRIDGE, MASS.
MELROSE, MASS.
SOUTHBRIDGE, MASS.
MAHANOY CITY, PA.
HARRISBURG, PA.
DAVENPORT, IA.
WINSTON-SALEM, N. C.
DALLAS, TEXAS (City)
DALLAS, TEXAS (County)
PITTSBURGH, PA.
HAVERSTRAW, N. Y.
ATLANTA, GA.
ALBANY, GA.
KENOSHA, WISC.
NEW ULM, MINN.
SPRINGFIELD, ILL.
SOMERVILLE, MASS.
MAYNARD, MASS.
GLOUCESTER, MASS
WILKES BARRE, PA.
CEDAR RAPIDS, IA.

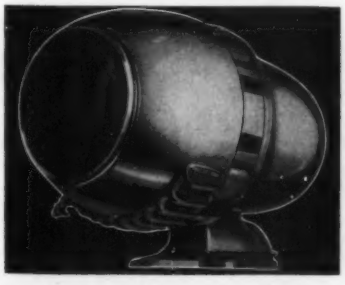
NOTE: *THIS LIST INCLUDES TRACTOR-DRAWN AS WELL AS SERVICE AERIALS*

PETER PIRSCH & SONS CO., KENOSHA, WISC.

a FEDERAL SIREN *with light is your safeguard against accidents like this*

Have a Siren by Federal put on all trucks now in use and insist upon a Federal Siren on all your new equipment . . . This will enable your squad cars, hook and ladder trucks and fire engines to speed through the most congested traffic with safety . . . It'll prevent accidents, damage to property, save the lives of firemen and pedestrians . . . A Federal Siren has a large flashing light which flares a warning to those in cars who may not hear the siren roar . . . Its advance signaling is startling . . . It is doubly protective . . . **Specify a Federal Siren on all equipment before delivery.**

SPECIFY A
FEDERAL C-5 COASTER SIREN



Federal C-5—The Streamlined Coaster-Siren. New and Improved. A roaring siren with Flashing Light that can be seen for blocks, day and night. Loudest by test. Light flashes on and off with economy coaster for 3 minutes after current is cut off that saves battery.

SPECIFY A
FEDERAL "77" Doubletone Long Roll Siren

Federal "77"—Doubletone Siren has a two-tone blast with Red Flashing Light. Its terrific roar rolls on after current is shut off for 2 minutes but stopped instantly by touch of button in zone of quiet. Ball bearing construction aids ease of operation, saves battery. Rugged—Streamlined.

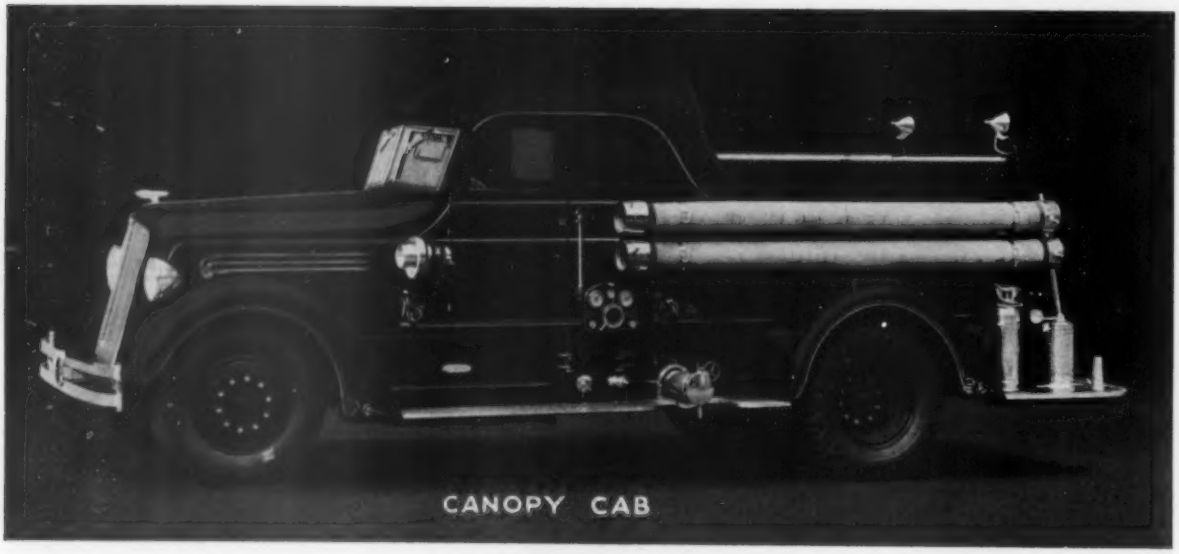
Specify one of these Federal Sirens for Safety.

New Bulletin No. 56 Sent Free—Write for it.

FEDERAL ELECTRIC CO.

8702 S. STATE ST., CHICAGO, ILL.

FIRE ENGINEERING, October, 1937. Vol. 90. No. 10. Published monthly by Case-Shepperd-Mann Publishing Corporation, 24 W. 40th St., New York, N. Y. Subscription price: U. S. and Canada, $2.00 a year; foreign, $3; single copies, 25c. Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879.



ALL-STEEL

NO BOLTS
NO RIVETS
NOT a commercial Truck Body, but a body built for fire service.

Photo taken during construction shows why Seagrave ALL-Steel Safety Bodies are better.

Seagrave

THE GREATEST NAME IN FIRE APPARATUS

NEW YORK
BOSTON
PITTSBURGH
CHICAGO
KANSAS CITY
SAN FRANCISCO
ATLANTA
DALLAS
LOS ANGELES
PORTLAND

F43
V. 90

SAFETY SEDAN

Safety BODIES

. . . SEAGRAVE SETS THE PACE *again* WITH WELDED STEEL CONSTRUCTION

The Seagrave Company, pioneer of the centrifugal pump, the welded all-steel aerial ladder, the fully enclosed type body, again proves its right to be called the leader by introducing all-steel safety bodies.

Designed by Seagrave Engineers specifically for fire department service and built from the ground up by Seagrave workmen in the Seagrave Shops the new type Seagrave fully-enclosed bodies have welded tubular steel frames, all metal tops, steel running boards, V-Type windshields and safety glass.

Seagrave fully-enclosed bodies are not in any sense comparable with the lightweight commercial car bodies sometimes offered. They embody every modern feature for safety and ruggedness. . . . That's why they are the choice of the municipalities listed below.

MUNICIPALITIES LISTED HAVE RECENTLY PURCHASED THE FOLLOWING APPARATUS:

ALL-STEEL SAFETY BODY APPARATUS

Detroit, Mich. (16)	Oakwood, Ohio
Tacoma Park, Md.	Evanston, Ill. (3)
Bar Harbor, Me.	Leesburg, Va.
Fredrick, Md.	Los Angeles, Calif. (3)
Camden, Me.	Carey, Ohio
Arlington, Mass.	Lancaster, Ohio (2)
Danville, Ill.	Lititz, Pa.
Beaver Falls, Pa.	Boardman, Ohio

***ALL-STEEL AERIAL LADDERS**

Arlington, Mass.	Glen Ridge, N. J.	Revere, Mass.
Belmont, Mass.	Johnstown, Pa.	Richmond, Ind.
Columbus, Ohio	Lancaster, Ohio	Scituate, Mass.
Crawfordsville, Ind.	Longview, Texas	Seattle, Wash.
Detroit, Mich. (3)	Lorain, Ohio (2)	Shreveport, La.
Des Moines, Iowa	Los Angeles, Calif.	Silver Spring, Md.
Dover, Del.	Lowell, Mass. (1)	South Orange, N. J.
East Providence, R. I.	Moscow, Idaho	Springfield, Ohio
Erie, Pa.	Mt. Clemens, Mich.	Sterling, Ill.
Evanston, Ill.	Owensboro, Ky.	Suffern, N. Y.
Fall River, Mass.	Pasadena, Calif.	Three Rivers, Quebec
Forest Hill, Ont.	Pocatello, Idaho	Troy, Ohio
Framingham, Mass.	Portland, Me.	Wenatchee, Wash.

***Only Modern All-Steel Aerial Ladder sales are listed above. Hundreds of the old type Seagrave Wood Aerials are in service.**

THE SEAGRAVE CORPORATION

COLUMBUS, OHIO

BICKLE - SEAGRAVE, LIMITED, WOODSTOCK, ONTARIO

The History of Gamewell Is The

71 YEARS EXPERIENCE BACK GAMEWELL PRODUCTS

The first Gamewell Fire Alarm Telegraph System was installed in Boston, Mass., in 1851. Interrupted during the Civil War, the business was resumed in 1866, and from that day forward the name Gamewell has been synonymous with Fire Alarm Development in the United States.

HIGHLIGHTS OF GAMEWELL HISTORY

1851—Installation of the first Gamewell System.
1866—The Gamewell Company founded.
1875—The automatic fire alarm repeater developed.
1880—The non-interfering box developed.
1883—Master box and auxiliary systems for private properties
1899—Application of storage battery to fire alarm systems.
1896—Positive Non-Interfering Successive Box.
1915—Peerless Single-Fold Boxes—high insulation.
1930—Three-Fold Fire Alarm System.
1936—Vitaguard Fire Alarm System for small municipalities.
1937—Constantly increasing Gamewell sales.

THE GAMEWELL COMPANY

BRANCH OFFICES

Grand Central Terminal
New York, N. Y.

1402 Park Building
Pittsburgh, Pa.

3209 Ross Avenue
Dallas, Texas

1741 Arapahoe Street
Denver, Colorado

407 South Dearborn Street
Chicago, Illinois

561 Chamber of Commerce Bldg.
Los Angeles, California

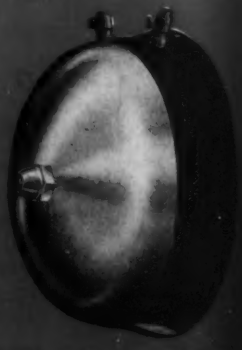
Peters Building
Atlanta, Georgia

1125 Pingree Avenue
Detroit, Michigan

THREE-FOLD FIRE ALARM SYSTEM

THREE-FOLD
FIRE ALARM BOX

THREE FOLD CENTRAL STATION



TURTLE GONG

FIRE ALARM
REGISTER

VOCALARM CONTROL UNIT

LOUD SPEAKER

DEPENDABLE FIRE ALARM BOXES SAVE LIFE AND PROPERTY

An efficient Fire Alarm System with ADEQUATE Box Distribution—not only protects property and life—but also protects the residential and industrial GROWTH of the community with all the attendant increase in social expansion, wages, and taxes!

VITAGUARD FIRE ALARM SYSTEMS FOR VOLUNTEER FIRE DEPARTMENTS

For small cities and towns, Vitaguard is the latest outstanding development in the fire alarm field, embracing many novel features. For complete descriptive information, write the company or any of its branch offices. The Vitaguard system is the latest development in the fire alarm field.

Catalogs and full information on Gamewell Products gladly sent on request.

NEWTON UPPER FALLS, MASS.

FOREIGN REPRESENTATIVES

Northern Electric Company
Montreal, Quebec, Canada

Duplex Fire Alarm Company
Wellington, New Zealand

General Fire Appliances Co., Ltd.
Johannesburg, South Africa

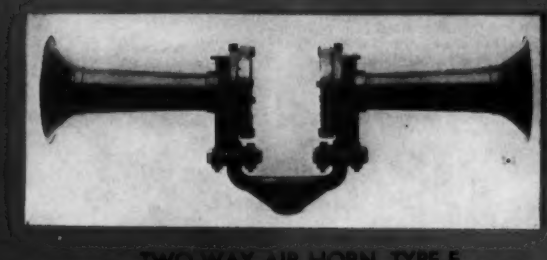
Mario Barros do Amaral
Sao Paulo, Brazil

Distribuidores, S. A.
Havana, Cuba

International Standard Electric Co.
New York, N. Y.

VITAGUARD FIRE ALARM SYSTEM

DIAPHONE HORN, TYPE B



TWO-WAY AIR HORN, TYPE F

VITAGUARD CONTROL UNIT

VITAGUARD BOX

1914
ONE OF THE "FIRST SIX"

The beginning of the motorization program of the F. D. N. Y. Ahrens-Fox Piston Pumpers were selected for heavy-duty service in a number of important companies. In some of these companies the record for continuous service has been unbroken.

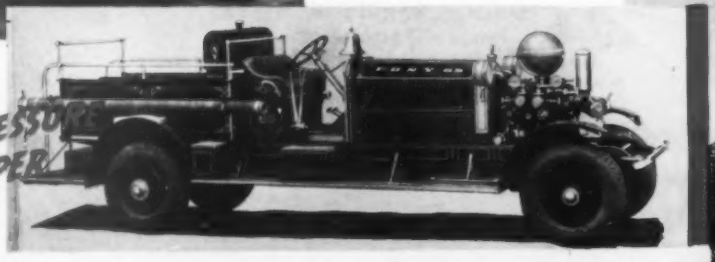
Twenty

1917
THE GREAT TEST!

Sensational history was made in the fire engineering world on Sunday morning, July 1, 1917, when the Ahrens-Fox Pumper of Engine Co. 35 first put effective fire streams on top of the Woolworth Building—an elevation of 706 feet.

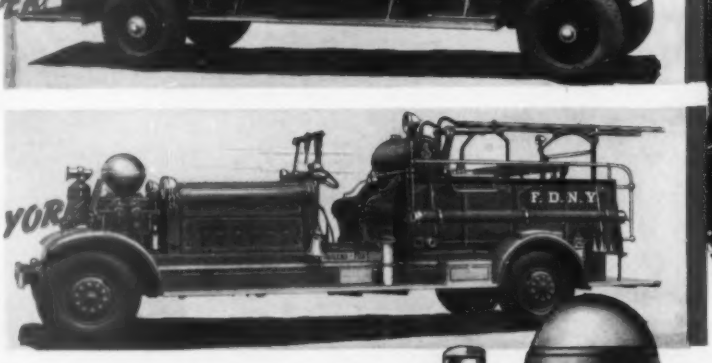
1927
FIRST "HIGH PRESSURE" PUMPER

Put in service with Engine Co. 65, now assigned to Engine Co. 276. Other Ahrens-Fox Piston Pumpers are located strategically.



1934
PRIDE OF NEW YORK

Ahrens-Fox apparatus proudly responds to alarm stations in midtown "White Light" district, to be admired in action by hundreds of thousands of New Yorkers and visitors. The extraordinary hazards of The Rockaways and many other districts are protected by battalions whose chief officers depend upon Ahrens-Fox.



-AND IN 1937 TWENTY MORE FOR NEW YORK!

Basically the same high quality apparatus that has won the approval of the F. D. N. Y. for many years, but improved in keeping with the tremendous progress made in Ahrens-Fox equipment.

AHRENS-FOX BUILDS EVERY TYPE O

More

AHRENS-FOX HIGH PRESSURE PISTON PUMPERS *for the City of* NEW YORK

The Fire Department of the City of New York has again awarded the contract to Ahrens-Fox for Piston Pumping Engines of the type which has established a long and successful record under the extraordinary demands of the world's greatest metropolis.

Being built under the rigid requirements of the specifications approved by Chief and Commissioner John J. McElligott in co-operation with the Departments of Finance and Purchase, these Engines will deliver their rated capacity of 1000 g.p.m. at net pump pressure of 160 lbs. and develop pressure upward of 600 lbs. net when delivering not less than 250 g.p.m.

Equipped with cabs and rear wind-shields, and other innovations characteristic of Ahrens-Fox design and New York specifications, the twenty Pumping Engines now being constructed will be the last word in "Modern Equipment for Modern Firefighting."

THE AHRENS-FOX FIRE ENGINE COMPANY • • • CINCINNATI, OHIO

PUMP FOR EVERY KIND OF SERVICE!

A Consolidation of
FIRE AND WATER ENGINEERING
and THE FIRE ENGINEER

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

ROBERT H. LOCKWOOD
Associate Editor

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Editor

N. N. WOLPERT
Assistant Editor

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Audit Bureau of Circulations
Associated Business Papers

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CHICAGO: 6 N. Michigan Ave.—W. S. CLEVENGER, L. M. ROCHE; SAN FRANCISCO: 444 Market St.—CHARLES H. WOOLLEY; H. N. HARNER

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GO GOODYEAR AND GO SAFELY!

No Other Tires Offer the All-Around Year-Around Protection of Goodyears!

THE WORST driving months of the year are just ahead.

And fire-fighting in itself is dangerous enough without adding extra hazards with risky tires.

Safe-going calls for Goodyears—safest of all truck tires—safest all ways in all kinds of weather—against skidding—against blowouts.

Goodyear's hard-gripping All-Weather tread with center traction gives greater non-skid protection for the slippery, skiddy going—takes turns or straight-away with steady, sure-footed stride.

And patented, pre-shrunk Supertwist Cord —reinforced with a special compound to dissipate internal heat—gives maximum blowout protection in every ply.

Go the safe way—go on Goodyears.

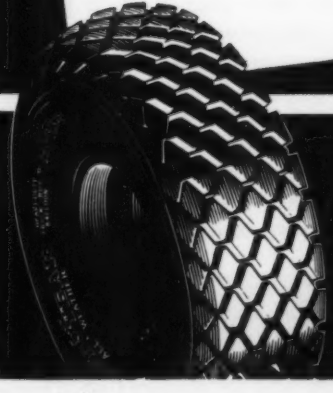
THE GOODYEAR TIRE & RUBBER COMPANY, INC.
AKRON, OHIO

Fool-Proof BLOWOUT Protection

Lifeguard* Tubes offer a plus of safety to fire apparatus because they render blowouts as harmless as slow leaks. Should a blowout occur, the "inner tire" supports the load—enables driver to come to a slow, deliberate stop under full control.

*TRADE MARK REGISTERED.

THERE'S A REAL KICK IN A GOODYEAR BATTERY



GOODYEAR TRUCK TIRES

MACK SCORES *from*

3 MACKS GO TO BALTIMORE
VANCOUVER, WASH., GETS MACK
5 MACK PUMPERS FOR CHICAGO
WILMINGTON, DEL., VOTES FOR MACK
KINGSTON, N.Y., GETS LATEST MACK MODEL
39 NEW PUMPERS DELIVERED TO NEW YORK CITY
BUTTE, MONTANA ORDERS NEW MACK
SAN FRANCISCO REPEATS WITH 2 MACKS
ANOTHER MACK FIRE ENGINE FOR POUGHKEEPSIE
AGAIN BRIDGEPORT BUYS MACK

THE first Mack fire engine was built in 1911. Now, after 26 years of fire engineering leadership, Mack still sets the pace. In today's huge modernization program, fire departments all over the country are turning to Mack. Some of these progressive cities are shown above.

Fire chiefs know that Mack apparatus can be depended on at every alarm, year after year. City officials know that Mack is the soundest form of fire apparatus investment. For Mack has never veered from the policy of building no less than the best. Back of every Mack apparatus is the greatest financial resources in the industry and a vast network of Mack-owned sales and service stations. Mack has the facilities to build the finest in fire apparatus—and does!

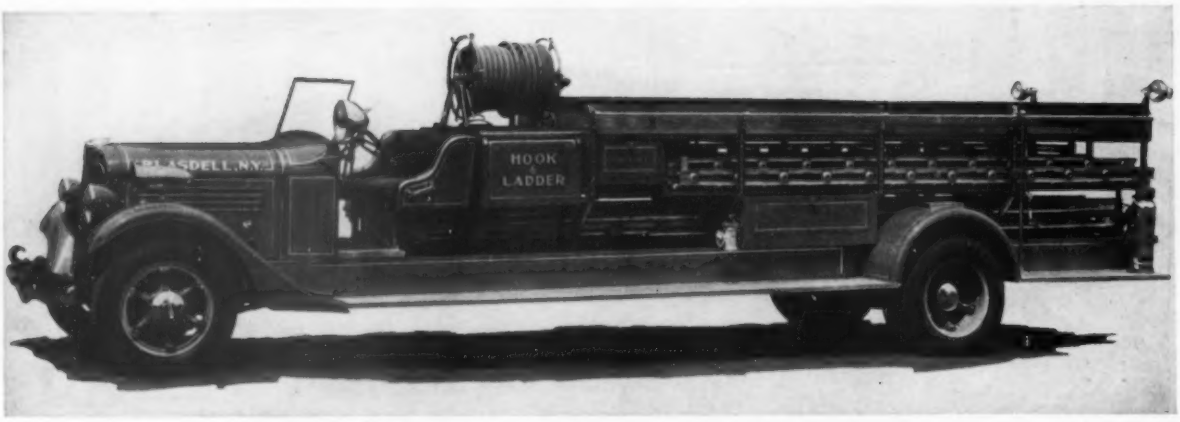
MACK TRUCKS, INC. • FIRE ENGINE

COAST TO COAST

THE triumph of 26 years of fire engineering experience, the new Mack Type 21 is the last word in modern, efficient, money-saving fire apparatus. This new pumper is one of the most popular models in the whole line of outstanding Mack equipment. New York City; Chicago; Baltimore; Wilmington, Delaware; Kingston, N. Y.—all these have recently ordered Type 21 Macks.

This special heavy duty pumper has been specifically designed to meet the stringent high-pressure pumping requirements demanded by large cities everywhere. It combines the famous Mack qualities of ruggedness and dependability with the simplicity and efficiency of a six-cylinder engine. Write for details on this up-to-the-minute fire equipment now!

DIVISION • NEW YORK CITY



Ladder Truck built by Cayasler Mfg. Corp. equipped by Aluminum Ladder Co.

FEATHER-LIGHT

SAFER — MORE EFFICIENT — STRONGER

ALUMINUM LADDERS

PROTECT YOUR MEN — INCREASE THEIR EFFICIENCY — SAVE MORE LIFE AND PROPRETY

Here are the ladders all modern Fire Departments need. Feather-light, they are the easiest-handling ladders you can buy. And they can't burn, rust, splinter, or break!

SPECIFY* ALUMINUM LADDERS *ON ALL NEW APPARATUS!

Full information covering our complete line always available on request.

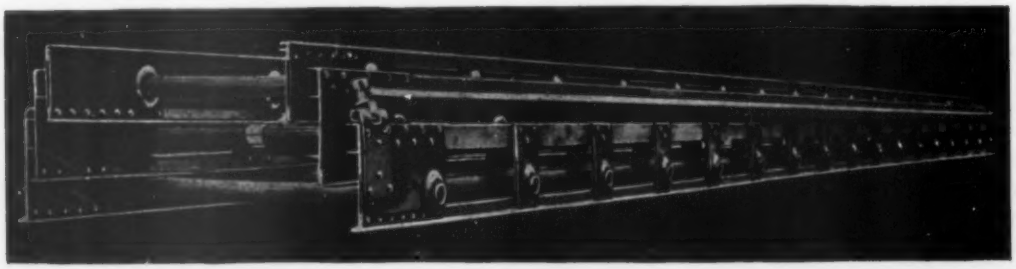
They require no painting or repairing. Ideal for rural Fire Departments. And they cost *no more* than wood truss type of ladders!

All sizes from 18 to 65 foot extension ladders.

Send for CATALOG and PRICE LIST

Minimum and Maximum Specification of Type 3 EL Ladder below:

3 EL 1: Length, 30 Ft.; Width Over All, 24 In.; Thickness, 10¼ In.; Weight, 125 Lbs.; Length Not Extended, 13 Ft.
3 EL 8: Length, 65 Ft.; Width Over All, 24 In.; Thickness, 10¾ In.; Weight, 230 Lbs.; Length Not Extended, 25 Ft.



ALUMINUM LADDER COMPANY

121 FIFTH AVENUE **TARENTUM, PA.**

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

Advancing the Frontiers

OF

FIRE FIGHTING EFFICIENCY

Beginning with the notable 3-toothed Rotary Pump, Hale pioneering has continuously advanced the frontier of fire-fighting efficiency. It is a matter of open record that Hale improvements in sound pump design have lead the way again and again to better, more efficient pumps for the industry.

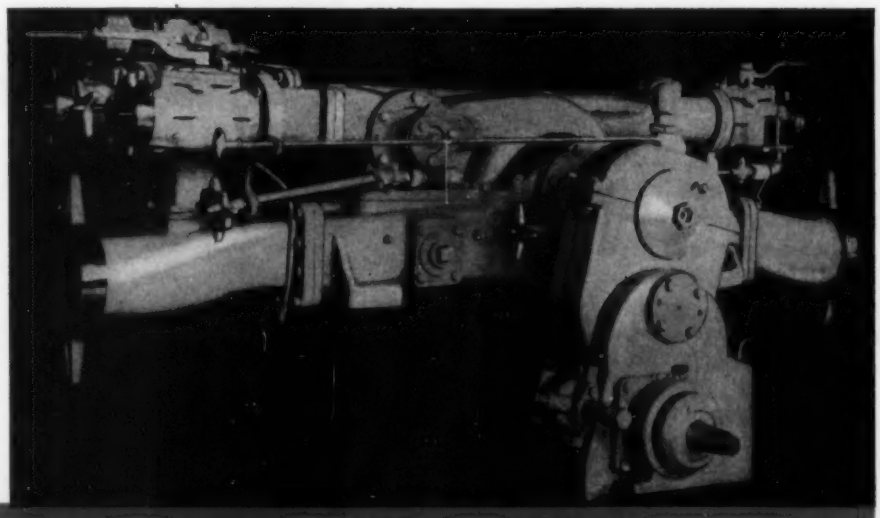
For example, consider these three recent basic improvements in pump design which were the result of Hale pioneering—improvements that have greatly increased the range, flexibility and efficiency of fire pump performance:

Hale pioneered and was FIRST to market a 2-stage Series Parallel Centrifugal fire pump with 2 ranges of performance.

Hale pioneered and was FIRST to market a 4-stage Centrifugal pump with 3 ranges of performance.

And now, another Hale FIRST: The creation and development of the Hale Exhaust Gas Ejector Priming system for Centrifugal pumps —simple, reliable and extremely durable. New but thoroughly proved.

One of the Hale "Multi-Service" Centrifugal Pumps



A COMPLETE LINE

The Hale Fire Pump Co. makes a complete line of Standard Fire Engine Pumps, both Rotary and Centrifugal, including Rotary Booster Pumps. This line extends from the Hale ZMM "Multi-Service" Centrifugal of 1500 gallons capacity to the Hale Type H Rotary Booster Pump of 100 gallons capacity. Every Hale Pump sold to meet a National Board of Fire Underwriters' specified capacity *will substantially exceed that rated capacity in both volume and pressure.*

Write for the Catalog and Folders on Hale Pumps.

HALE

FIRE PUMP COMPANY

708-716 Spring Mill Avenue, Conshohocken, Penna.

"WOULD HAVE SUFFERED COMPLETE LOSS . . ."

but
AERO
Automatic Fire Alarm had been Installed 10 hours before the fire broke out!

The fire started when a red-hot bolt fell from the heater onto a mattress.

WHO could foretell that this Aero Automatic Fire Alarm System would perform such great service before even one day had passed? But fire gives no warning. It strikes suddenly —when least expected.

In this case, fire broke out at four o'clock in the morning on the second floor of the plant of a bedding manufacturer.* A red-hot bolt dropped from a gas heater onto a mattress which quickly burst into flames. The rapid rise of temperature immediately and automatically operated the Aero Automatic Fire Alarm, summoning the fire department which arrived before the fire gained headway.

"We feel," wrote the company's General Manager, *"that had it not been for this installation, we would have suffered a heavy, if not complete loss of our building and its contents."*

The A.D.T. Aero Automatic Fire Alarm System detects and reports fire *when it starts,* enabling the fire department to arrive before a blaze assumes dangerous proportions. Aero thus overcomes the hazards of belated discovery and delayed or inaccurate alarms —the causes of most large-loss fires. Descriptive literature will be sent on request.

*Name on request.

Controlled Companies of AMERICAN DISTRICT TELEGRAPH CO., 155 Sixth Avenue, New York, N. Y.
Central Station Offices in all principal cities

A NATION-WIDE PROTECTION SERVICE AGAINST FIRE, BURGLARY AND HOLDUP

A·D·T

For Finest

Buy

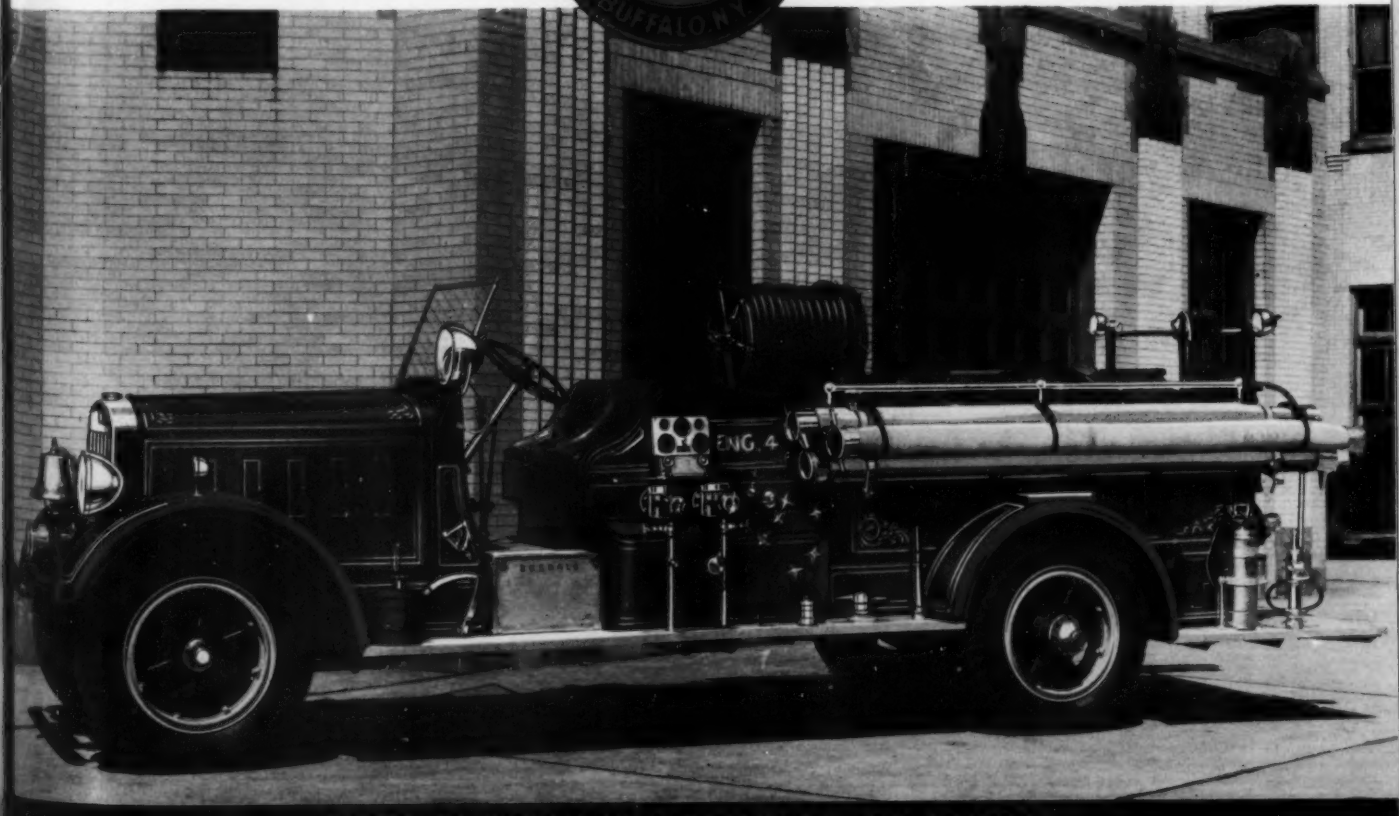
DESIGN CONSTRUCTION PERFORMANCE

BUFFALO BETTER BUILT FIRE APPARATUS

● The City of Canandaigua, New York, is the proud possessor of this new "Buffalo" Better-Built Streamlined Sedan Pumper. Here, the finest in body design has been combined with the latest and best in fire truck construction to give the citizens of Canandaigua the most dependable fire protection and performance they have ever witnessed. . . . Your community, too, can have this better protection that "Buffalo" Pumpers give.

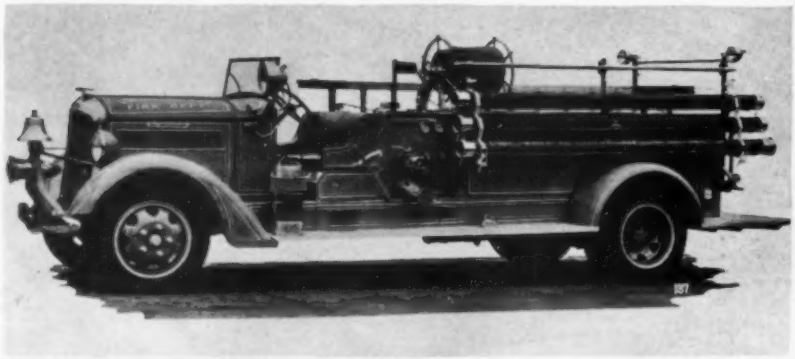
BUFFALO FIRE APPLIANCE CORP. BUFFALO N.Y.

● It has been said "A prophet is not without honor, save in his own country." Such is not the case in Buffalo where we have just delivered two 1500 Gallon Pumpers to the Buffalo Fire Department, one of which we illustrate below. Never in the history of the Department have any new fire trucks received such high praise for outstanding performance far in excess of requirements as these new 1500 Gallon "Buffalo" Pumpers.

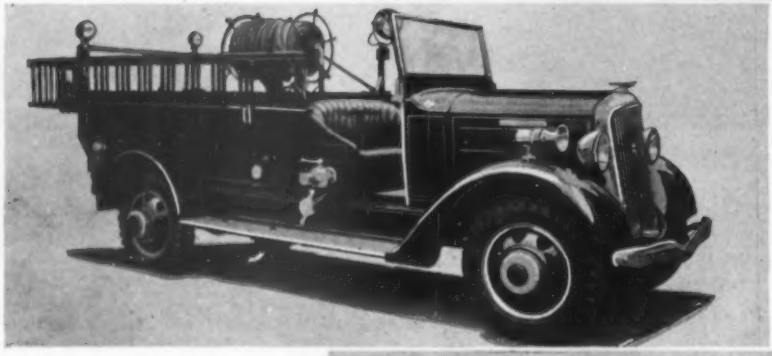


WRITE OR WIRE FOR LITERATURE AND PRICES

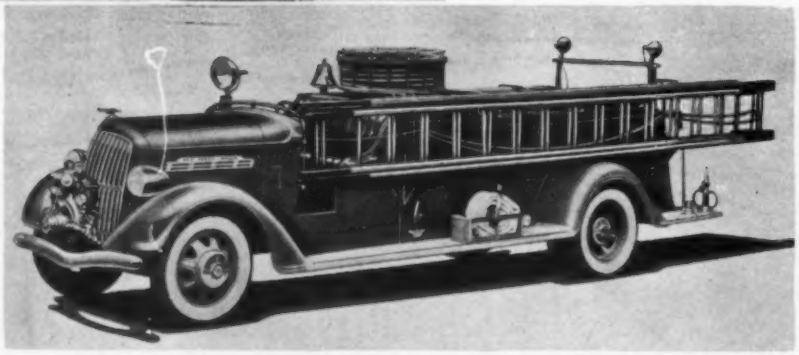
REO SPELLS "RELIABILITY" TO FIRE FIGHTERS



Combination pumper with high pressure pump back of seat.



Combination pumper with pump under seat.



Combination unit with centrifugal pump in front of engine. Popular for fighting grass fires where the truck must follow the fire, also for pumping from creeks. Centrifugal pump will not clog with sand or grit.

Reo fire fighting equipment is becoming increasingly popular everywhere because of its speed, power and reliability.

Speed to get to the scene of the fire quickly—ample power to pump plenty of water at high pressure—reliability and endurance to keep going for hours if necessary on long, stubborn fires.

There are Reo models for every fire-fighting need from the small combination equipment for summer resorts up to big pumpers and ladder trucks for city use.

Reo Gold Crown engines are ideal for this service. Chrome nickel blocks, Lo-Ex pistons and 7-bearing crankshafts assure durability and smooth trouble-free performance. Exceptional cooling capacity enables them to operate for long hours of hard pumping work. Oversize engines are available for heavy duty pumping service.

Reo's Ability Rating Plan gives you guaranteed performance. Ask your Reo dealer for particulars.

REO MOTOR CAR COMPANY

LANSING, MICHIGAN

It will help if you will mention FIRE ENGINEERING *when writing advertisers*

NEW!

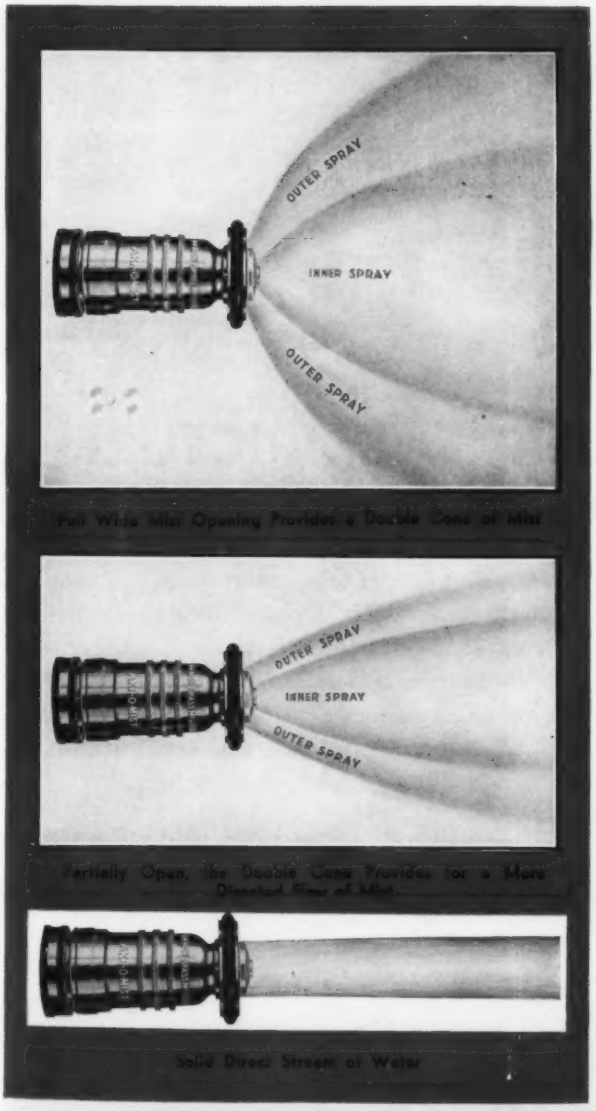
Patent applied for.

Arrows Indicate Inner and Outer Mist Openings

THE ONLY NOZZLE THAT THROWS A DOUBLE CONE OF VAPOR

•

AKR-O-MIST DOUBLE CONE NOZZLE


OUTER SPRAY
INNER SPRAY
OUTER SPRAY
Full Wide Mist Opening Provides a Double Cone of Mist
OUTER SPRAY
INNER SPRAY
OUTER SPRAY
Partially Open, the Double Cone Provides for a More Direct Flow of Mist
Solid Direct Stream of Water

DOUBLE ADVANTAGE

←INSIDE CONE PENETRATES, OUTSIDE CONE RETAINS STEAM, ELIMINATES FLASH-BACKS, COMPLETELY SMOTHERING FIRE INSTANTLY!

Here's the new DOUBLE MIST Nozzle—AKR-O-MIST—that gives Double Smothering Action on fires. The DOUBLE Concentric Cones of Vapor deliver more volume of mist—More Quickly and with Greater Effect—thus bringing about a quicker Covering and Smothering action! The Double Cone requires no more water than a single one. But its Denser, Smothering Mist snuffs out a blaze in *Much Less Time* and with *Less Total Water Consumption!*

Ten years' experience in developing vapor and mist nozzles, verified the FACT that a double cone is necessary to effectively handle ALL fires. Practical fire fighting engineers know this.

The AKR-O-MIST nozzle is gradually adjustable by rotating from Complete Shut-Off through all the degrees of mist from full wide 160 degrees Double Cone down to a Heavy, Concentrated Solid Stream, and then to a Single Penetrating Cone of mist, in the order named.

This sequence in which the vapor comes first precludes the possibility of a dangerous solid stream being discharged into liquid fires!

At competitive test conducted at Saginaw, Mich., Aug. 11, 1937. only two AKR-O-MIST Nozzles extinguished in 40 seconds same fire on which four of another make were used.

AKR-O-MIST Nozzles are made from Non-Corrosive Nickel Bearing Bronze Alloy and are Precision Engineered. They come in ALL SIZES and TYPES.

Write for Catalog and Full Information Without Obligation

Don't fail to see this new nozzle, in all sizes, at the I.A.F.C. Convention at Oklahoma City.

AKRON BRASS MFG. COMPANY, INC.
WOOSTER OHIO

THEY'LL REMEMBER THIS PICTURE
and its fire prevention message

HERE is a new development worth knowing about. It is an advertising campaign of vital interest to every man who is seriously concerned with fire protection.

Next month Walter Kidde & Company will start using full page advertisements in several magazines including "FORTUNE" which will carry the message of fire protection and prevention right into the front office of industry.

We mention this campaign because it will aid you and your associates in preaching the gospel of adequate protection of all industrial fire hazards. It tells of the speed of Lux carbon-dioxide gas, fastest known extinguishing agent. It emphasizes, the safety, the freedom from damage of Lux portable extinguishers and Lux Fixed Systems.

Lux engineers stand ready to work with fire departments on any problem that confronts them. Any literature describing Lux carbon-dioxide fire-fighting equipment will be sent to you, free, upon your written request.

Walter Kidde & Company
310 West Street, Bloomfield, N. J.

IT MAY MEAN A LIFE . . .

MANHATTAN RADIO-ACTIVE TREATED FIRE HOSE

A hose bursts . . . vital minutes to life and property are lost forever . . . because mildew and rot have weakened the strength of hose fabric.

Lives depend on unfailing hose performance. Manhattan chemists have perfected Manhattan Radio-Active Treated Fire Hose by treating the fabric with salts of rare earth metals which have radio-active properties. This original and exclusive process results in four advantages:

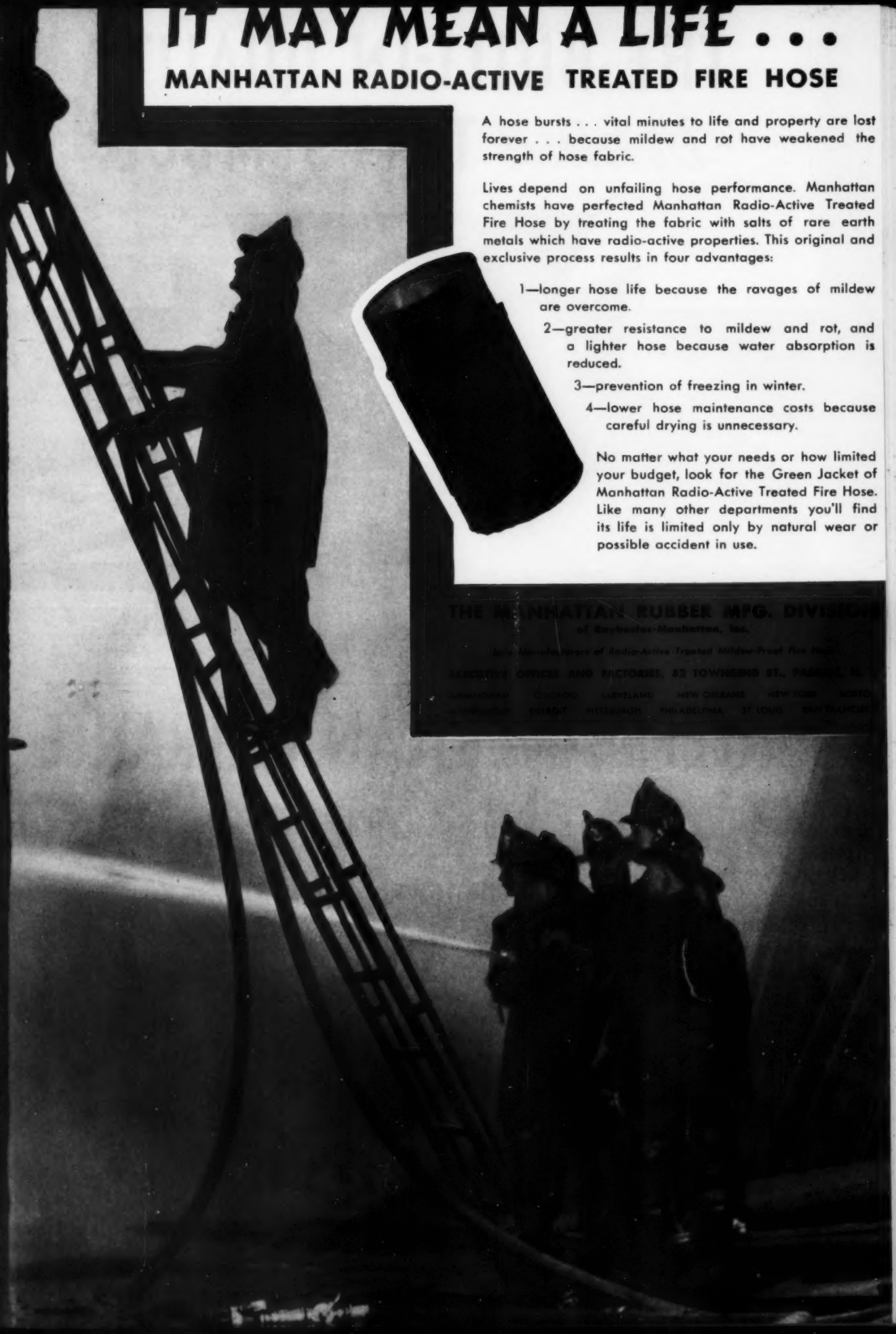
1—longer hose life because the ravages of mildew are overcome.

2—greater resistance to mildew and rot, and a lighter hose because water absorption is reduced.

3—prevention of freezing in winter.

4—lower hose maintenance costs because careful drying is unnecessary.

No matter what your needs or how limited your budget, look for the Green Jacket of Manhattan Radio-Active Treated Fire Hose. Like many other departments you'll find its life is limited only by natural wear or possible accident in use.



THE BUILT-IN QUALITY *behind* THIS SYMBOL-

KEEPS AMERICAN LA FRANCE IN *front*

QUALITY is *engineered* into the design of the American-LaFrance Apparatus.

QUALITY in design is *checked* by severe tests at the Experimental Proving Ground.

QUALITY is *assured* by rigid inspection of raw stock and finished material.

QUALITY is thus *built into* the completed apparatus.

QUALITY in the American-LaFrance Apparatus has been *further proven* in the toughest test of all—the test of year in and year out emergency fire fighting service.

...YOU can depend on the apparatus built with this symbol—the symbol that is "always in front."

AMERICAN-LA FRANCE AND FOAMITE INDUSTRIES, INC.

ELMIRA, NEW YORK, U.S.A.

Always in Front

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 90 OCTOBER, 1937 No. 10

WITH THE EDITOR

Sixty Years of Service

This fall FIRE ENGINEERING celebrates its sixtieth birthday. And what a revolutionary period those sixty years have proven to be in the fire service!

The rise and decline of the steam fire engine occurred within that period. The introduction of motor apparatus and the complete motorization of the fire service, too, came within those years, as well as the birth of the closed body fire truck and the advent of power raised aerial ladders and of metal aerial ladders.

Civil service in the Fire Department had its beginning and its growth to healthy maturity in those eventful years. And coupled to civil service came the Fire Department schools and so called "Fire Colleges." The almost universal adoption of the two platoon system and the start of three platoons were also credited to the same era.

New and effective extinguishing agents have appeared in the line-up to strengthen the fire service in its fight against the perpetual enemy. Notable among these are carbon tetrachloride, carbon dioxide, foam, both chemically and mechanically made, and atomized water sprays, or fog.

Changes in methods of operating at fires, too, have occurred in numbers. Today, fighting fires inside of buildings and at close range instead of relying largely on outside operation is the common procedure.

To facilitate inside fire-fighting work and to aid in rescue of trapped occupants in burning buildings, ventilation of the structures is today the usual practice.

To check unnecessary damage by water, salvage work and overhauling are almost universally done. Salvage work by municipal departments is a comparatively new trend. Started about 1924, it spread rapidly and today is classed as a highly necessary function in the vast majority of Fire Departments in this country.

Inspection work by Fire Departments, too, has grown in importance in recent years. It is based on the belief that fires are best fought before they occur.

All of these innovations have proven productive of decreased fire losses. All have proven themselves worthy of the labor and cost they represent.

In these advances in the fire service FIRE ENGINEERING has been privileged to take a leading part. Salvage work, uniformed inspections, ventilation at fires, motor apparatus, Civil service, two platoons and the adoptions of effective methods of handling newly created fire hazards are among the many developments for which this journal has campaigned vigorously since their inception, and has observed with gratification their consummation.

On this, our Sixtieth Anniversary, we take pleasure in rededicating ourselves to continued improvement of the fire service and all it represents.

Fred Sheppard

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Six Decades of Fire Fighting Progress

Industrial Progress Followed by New Developments in Fire Fighting Equipment and Methods

By FRED SHEPPERD

The Remark is Often Made That Firemen are "Softer" Today Than in the "Good Old Days." The Fallacy of Such a Statement is Indicated by the Stiff Course in Evolutions Which New Recruits Must Master. Incidentally, These Evolutions Are Same as Those Employed in the "Good Old Days"

THERE is one change that has not occurred in the past sixty years of progress in American fire fighting, and that is the position held by water as a fire extinguishing agent.

Since the dawn of history, water has remained the chief standby for controlling fires of all sizes, and is still effective in the majority of cases.

Recent years, however, have seen the development of a number of new extinguishing agents which have proven far more effective for certain types of fires than has water. The advent and use of these new extinguishers have changed materially the methods of operating on certain types of fires. Today the by-word might well be: "Specialized extinguishers for specialized fires."

Soda and Acid Extinguishers

Following the use of plain water, the soda and acid extinguisher entered the scene. For years it was commonly believed that the solution in the extinguisher had some extraordinary extinguishing power not possessed by water. This fallacy, however, has been fairly well cleared up in recent years. Today it is recognized that for practically all fires the stream from the soda and acid machine is no more effective than a water stream of the same size and pressure.

Other Extinguishing Agents

After the soda and acid extinguisher, foam, carbon tetrachloride, carbon dioxide, methyl bromide (or loaded stream) and fog, respectively, entered into the picture.

Each of these agents today is recognized as possessing particular qualities especially effective on certain types of fires.

For electrical fires and small inflammable liquid fires, carbon tetrachloride has become well established. Foam is the chief standby for fires in large oil and inflammable liquid containers, and smaller oil installations where flowing oil is not encountered. It is also used to a limited extent on fires in ordinary materials.

Carbon dioxide first gained a prominent place in fire extinguishing operations on board ships, where the gas could be confined to the zone of combustion. Because it produced no harm to the materials which were exposed to it, it proved a valuable extinguishing agent on fires involving machinery and materials on which water might create severe losses.

More recently it has extended its field of usefulness, so that many carbon dioxide extinguishers are now in service for handling small oil and inflammable liquid fires, as well as fires around electrical apparatus. In confined spaces it is highly effective for almost any type of fire.

Methyl bromide has so far found a very limited use in fire fighting. While it is twice as efficient a fire extinguishing compound as carbon tetrachloride, its comparatively high cost has been a deterrent to its use. Like carbon tetrachloride, methyl bromide vapors have the remarkable property of preventing combustion even when a sufficient amount of oxy-

Inside Fire Fighting is Not Spectacular, But It is Highly Efficient. It is a Trend Which is Becoming More Marked in Departments Large and Small

gen is present to maintain a fire. It has a much more marked toxic effect than carbon tetrachloride. It must be used with extreme care.

The latest agent for extinguishing fires, particularly those in oil or inflammable liquids, is atomized water, or fog. Fog is produced by atomizing a stream of water by means of a specially designed nozzle. The stream is broken up into fine particles, either by the impinging of streams on each other or by a movable part in the nozzle which performs the same function.

The range of fires on which fog is effective has not yet been fully determined, but it is evident that the fog may be used even on electrical apparatus at fires, without doing material damage.

With these new additions to the working equipment of the modern department, it can be appreciated that methods of fire fighting have changed widely in the last sixty years.

Inside Work

At the average fire, the Fire Department of today puts on a less spectacular performance than a half century ago. Responsible for this change is the present trend toward inside work. A well trained, modern department goes into the building after the fire and does not wait for it to come out. The objective is to extinguish the fire with the least water possible. To do this, the line must be taken to the seat of the fire where it can operate most effectively.

Ventilation

Entering a building which is involved by fire requires certain preliminary steps, as well as special equipment in some cases. Ventilation of the structure removes a great deal of the heat and smoke, permitting the department to do close work.

The practice of ventilating, while conceived years ago, made little headway until 1908. From that time on its progress has been steady.

An interesting example of how a useful trend may be checked by thoughtlessness is exemplified by the experience of New York City. Years ago, when the Fire Department was progressing in methods of ventilating, the Fire Commissioner happened to be at a fire one evening when he saw a fireman carelessly break a plate glass window. He ordered that thereafter there be no unnecessary breakage of glass at fires. The firemen took him literally, and then some. As a result, they hesitated to break any windows or skylights. The result was that ventilation was set back to where it was in the volunteer department days. It took a progressive Chief, and a fearless one, to re-establish the practice, which today is becoming universal.

While ventilation is absolutely necessary for making inside work at many fires possible, the development and use of gas masks and self contained breathing apparatus has also served as an important factor in this progress.

While gas masks would have been useful a half century ago, they are absolutely necessary today. With the profound development of the chemical industry, and the introduction of new chemical products which when afire throw off toxic gases, the gas mask and self-contained breathing apparatus have become highly essential equipment of Fire Departments. These devices make it possible for fire fighters to enter portions of the building which could not be entered were ventilation alone depended upon.

Thus we see today new methods of operating at fires being introduced, as a result of the development of new extinguishing devices; we see change in methods of fire fighting brought about by the practice of extinguishing fire by working at close range.

Education

While developments of new methods of extinguishing fire have produced revolutionary changes in the Fire Department operations in recent years, almost of equal importance is the change in personnel.

Two factors underlie this change: (1) the profession of fire fighting is far more attractive to young men today, with its greater pay and shorter hours; (2) general adoption of civil service has resulted in a better educated class of men entering the service.

Because the fireman's job is one which is looked upon favorably by so many young men of the present day, the Fire Department can impose much more severe entrance requirements now than in the past. To enter the service a young man must have a fairly good education, besides a good physique. To gain promotion after entering the department, he must compete with a large number of men in the department in the civil service promotional examinations. And he must be high up on the list of those who have taken the examinations if he is to be assured of promotion. Thus the members of the department must compete with each other and this competition induces study on the part of the men. Starting with a better education in the first place, and devoting so much time to improving themselves mentally, firemen of today are a much more intelligent and capable class than in the past. It is logical to conclude, therefore, that more intelligent fire fighting results.

The Fireman Goes to School

Fire Department Schools aid in producing a more efficient, more capable officer. There's less idle time for the men in the modern department.

Salvage Work

Less than two decades ago it seemed to be the impression of most Fire Chiefs that the work of the department should end with the extinguishing of a fire. They seemed to

be concerned chiefly with fire-fighting operations, and did their task with one point in view, to extinguish the fire. The careless use of water was common; water damage far in excess of fire loss was equally common; the saving of property at fires by salvage work was assumed to be the duty of salvage corps, maintained by fire underwriters.

Many a Fire Chief took the view that as the fire insurance companies were the ones to benefit chiefly by salvage work, they should take the responsibility of this job.

It wasn't until the 1925 convention of the International Association of Fire Chiefs that the subject of salvage work, and the responsibility of the municipal departments therefor, was fully aired. At the convention, Chief Ralph J. Scott, of Los Angeles, Cal., read a paper on salvage work performed by his department. At that time his department had been doing this type of work for approximately a year and a half.

Opening Up of Skylights Constitutes One of the Most Effective Methods of Ventilating a Burning Building. Ventilating is a Comparatively Modern Practice

FIRE ENGINEERING had already taken the editorial stand that salvage was as much a part of the work of the municipal department as was fire fighting. It made no difference whether the department saved property from fire or the water they used in extinguishing the fire, they were equally concerned with saving of damage in either case. This view was sound, as many properties at which the Fire Department operated paid no insurance and the loss from water was a loss to the property owner. Furthermore, all property owners pay city taxes, and thus do their share of maintaining the Fire Department. They were, therefore entitled to the best the department could give them in the way of service to reduce property loss, whether from fire or water.

This viewpoint was rapidly adopted by Fire Departments throughout the country, and today salvage work is becoming just as important a part of the Fire Department operations as is fire fighting. Furthermore, Fire Departments have found that well done salvage work is the best advertisement they can secure, in the eyes of the public. For a property owner who has had a fire, and has seen how carefully the department has cleaned up after the fire has been extinguished, and has restored the property to a condition as nearly as possible to what it was before the fire, is usually very loud in his praise of the efficiency of the department.

Many of the departments have done overhauling work for years, though this was chiefly for the purpose of making sure that all fire in property had been extinguished. Today, salvage work and overhauling go hand in hand; where one ends, the other starts.

Fire Loss Trends

The question is often raised as to why fire losses should be so high today when Fire Department efficiency has improved so greatly. It is a simple question to answer. Property values today are far higher than they were in the past. Building construction costs are higher, and higher concentration of values in occupancy are the usual rule. Elaborate machinery for manufacturing processes, as today employed, take the place of a great deal of hand labor with simple machinery of the past. Fire today involving a building engaged in one line of manufacture may do infinitely more damage than a fire in a building of similar size and similar occupancy of fifty years ago. Furthermore, many new devices and parts have been placed on the market, which are articles of common use today, and which represent high property value. For example, home motion pictures, radio, phonographs, and household electrical appliances all entail high values. None of these were in existence at the first birthday of this journal. Furthermore, buildings are continually increasing in size and in value.

Hence fire losses may well be expected to be heavy, despite the improved work of fire-fighting forces.

What Does the Future Hold?

For fire-fighting the futture holds as many and as revolutionary changes as the past. Better buildings will be built. Building laws will be more rigid. Fire-proof materials will be more commonly employed. In this latter connection, it may be pointed out that there is today on the market fire-proof wood bearing the label of the Underwriters' Laboratories. Doors made of this wood receive the same credit as metal fire doors. Hence the time is not so far in the future when the work of the Fire Department should be materially lessened and when fire losses should be lowered somewhat.

Methods Will Be Improved

As in the past, when new industrial products of high fire hazard were matched by new methods of extinguishing fires therein, so in the future will new products, brought about by advances in industrial sciences, be matched with effective methods of fire control.

The future should see further development of specialized methods and extinguishing equipment for specialized types of hazards. The last twenty-five years of progress in fire fighting has been little short of astounding; the next twenty-five years should see an equally great advance.

Electric Tools Prove Worth

Chief William J. Lutz, Wilmington, Del., has learned the value of electrically operated tools to facilitate forcible entry and rescue work.

The department has a Homelight generator which has given good service in lighting up fire grounds, especially when the lighting power was shut off. The generator also operates an electric drill, electric hammer, electric auger and saw.

Sixty Years Advance in Fire Apparatus

Great Progress in the Perfection of the Fire Engine During This Period—Influence of Gasoline Propulsion on This Advance

By ROBERT H. LOCKWOOD
Associate Editor, "Fire Engineering"

So much depends upon the efficiency, reliability and dependability of the fire engine in the battle against man's worst enemy—Fire—that a review of the progress in perfecting this important apparatus is very interesting and instructive. While up to almost the end of the Nineteenth Century the improvements in this important adjunct to the fireman's profession lagged discouragingly, the past sixty years, on the other hand, have seen a marvelous advance in all branches of the fire apparatus industry.

Limitation of the Horse-Drawn Truck

Of course, a large amount of this progress can be ascribed to the invention of the automobile and the adaptation of the principle of self-propulsion to the fire apparatus. The horse-drawn vehicle was, of necessity, limited by the capacity of the animals which drew it as to size, weight and speed. This, undoubtedly, is the principal reason for the comparatively slow development of the fire apparatus in the 'eighties and 'nineties.

The great advance began with the advent of the motor car and the adoption of gasoline as a motive power, both for the fire apparatus and its pumps. From the commencement of this revolution in propulsion dates the great advance in fire apparatus improvement.

America's First Steam Fire Engine

In order to obtain a correct picture of fire apparatus development in the United States, it is necessary to go back a little further than the exact period that this review is to cover. The first fire engine built in the United States was designed by Paul R. Hodge, an English Engineer, at the suggestion of the Underwriters. Fires of considerable extent had been of frequent occurrence in New York City, and the methods of handling them were by no means efficient. As a consequence the insurance interests commissioned Hodge to build a steam fire engine, to be drawn by either men or horses, and to "throw a stream over the City Hall flag staff." This engine, which resembled a locomotive and was very heavy, was completed in the spring of 1841. It was publicly tested in front of the City Hall on March 27 of that year. However, very bitter opposition to its use developed in the ranks of the volunteer firemen of the city, and while Pearl Hose Company, No. 28, did actually operate it, use of the apparatus was discontinued after a few months, the firemen claiming that it was too heavy and that the boiler would not furnish enough steam.

Erickson Never Built a Fire Engine

John Erickson, who later invented the first iron clad, the Monitor, was awarded a gold medal for the best design of a fire engine by the Mechanics' Institute in 1840, he having submitted plans for such an apparatus. This engine, however, was never built.

Another inventor who designed a fire engine was William L. Lay, of Philadelphia. He tried to interest capitalists in the production of this engine, but experienced the same opposition that others had felt from the volunteers firemen of those early days, who seemed to fear that the introduction of the mechanical engine would deprive them of their positions.

The First Successful Steam Fire Engine

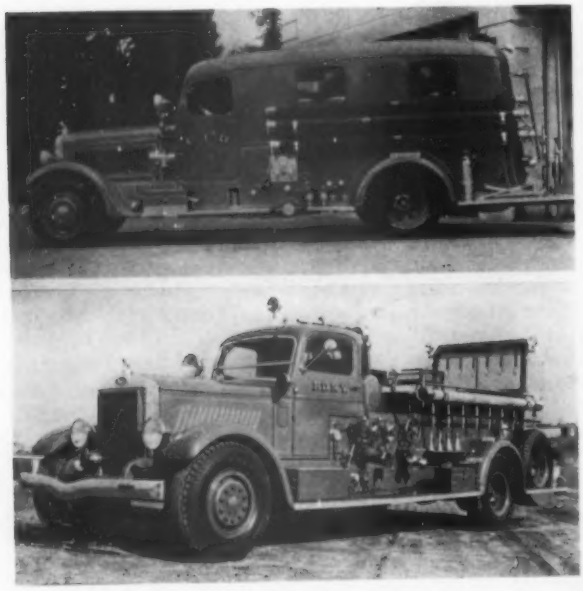
The first successful steam fire engine was designed by Moses Latta, of Cincinnati, in 1852. An experimental engine was built by Latta in that year and tested before the Cincinnati City Council. It had an eight-inch steam cylinder, two-foot stroke, with a four-inch hand engine pump. The boiler was constructed of coiled gas pipe, encased in sheet iron, and the wheels and other parts were taken from an old ladder truck. Steam was raised from cold water in four minutes, 10 seconds from the time smoke issued from the stack and water was forced through 350 feet of hose to the distance of 130 feet.

The City Council was so pleased

A Steam Fire Engine of 1906

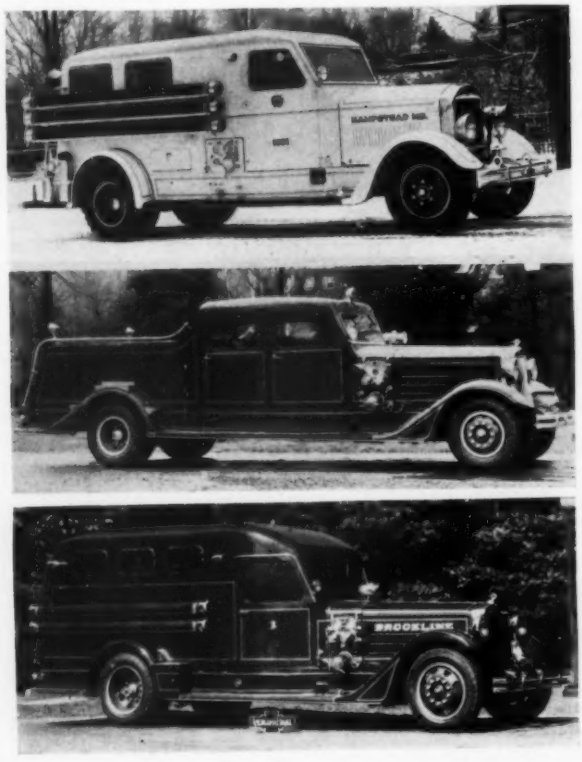
This apparatus is now exhibited in the Smithsonian Institution at Washington as a typical example of steam fire engine practice.

with the demonstration, that it contracted with Latta to build an engine. This apparatus, named the "Joe Ross," after an individual who had done much to persuade the City Council to appropriate $5,000 for the engine, was a ponderous affair, self-propelled, with two rear wheels and one in front, used to steer. The boiler was square and upright, with two horizontal cylinders, one on each side. The pumps were in front of the cylin-



Upper: Mack fire sedan; first piece of enclosed fire apparatus ever built in the United States; now in operation by the Fire Department of Charlotte, N. C. Built by Mack-International Motor Truck Corporation to the specifications of Chief Palmer of Charlotte.

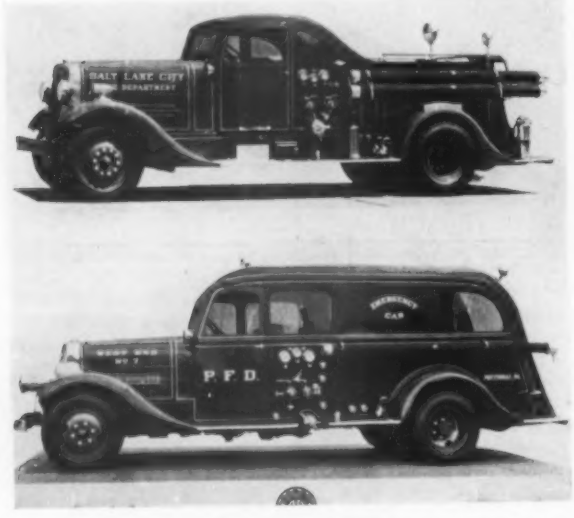
Lower: Mack type 21, 1,000 gallon special high pressure pumping engine recently delivered to New York City.



Top: All enclosed car built by American-LaFrance & Foamite Inc., for Hampstead, Md. This machine is equipped with a 600-gallon single stage centrifugal pump.

Center: One of the larger Metropolitan series, American-LaFrance pumpers, with double cab, built for the Los Angeles, Cal., Fire Department.

Bottom: American-LaFrance Metropolitan series, all enclosed body, pumper delivered recently to the Fire Department of Brookline, Mass.



Upper: Closed cab, streamlined pumper built by the Ahrens-Fox Fire Engine Company for the Fire Department of Salt Lake City, Utah.
Lower: Fully enclosed pumper built by Ahrens-Fox for the West End Fire Company, No. 7, of Pottsville, Pa.

Fully enclosed combination pumper and hose wagon built by Four Wheel Drive Auto Company, for the Hartford, Wis., Fire Department. This machine carries 1,250 feet of hose and has a 500 gallon pumper mounted under seat.

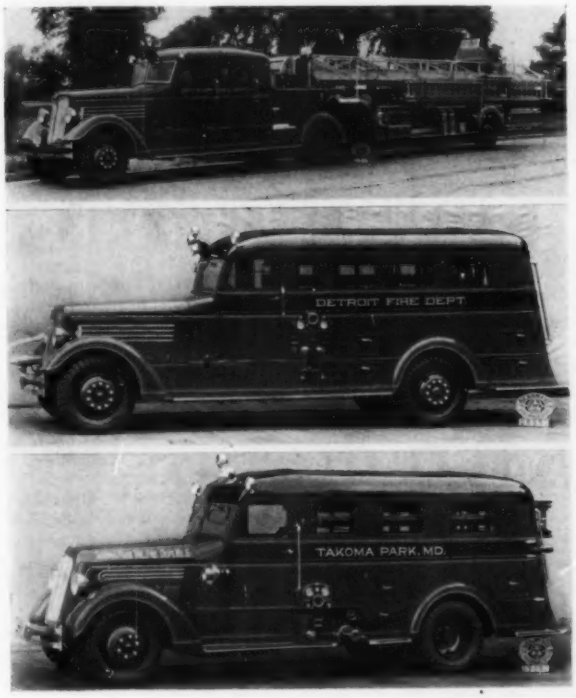
The Trend Today is Definitely Toward Closed Body Fire Trucks

The first complete, custom built enclosed fire truck was delivered to the Charlotte, N. C., Fire Department in July of 1935. Since that date the popularity of this type of machine has grown at an astounding rate. Not only in shielding the men against severe weather, but also in the protection of men against accident enroute to and returning from fires the enclosed machine has proven its value. In Charlotte, shortly after the new pumper was installed, it collided with a taxicab, demolishing the taxi; but none of the firemen was injured. At Detroit, a closed body pumper collided with a heavy open fire truck, killing one man and injuring others on the open machine. None in the closed body pumper was injured.

ders and were driven direct. The engines were made to couple with the driving wheels, when required for propulsion. The fire engine weighed 22,000 pounds and required four horses, which were ridden artillery fashion by the firemen, besides the propelling power of the engine itself, to draw it.

At the test, the suction hose drafted from a cistern, and the engine threw two, four and six lines at the same time, much to the astonishment of the spectators. The engine was accepted and placed in service on January 1, 1853.

Later, another large engine was purchased by popular subscription from Latta, and was appropriately named: "The Citizens' Gift." It was also a three-wheel apparatus, with

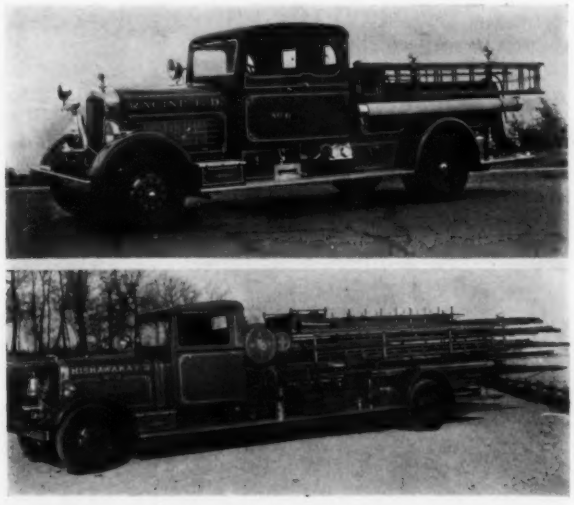


Top: 100-foot aerial ladder built by Seagrave Corp., for the city of Detroit. Equipped with Seagrave safety steel ladder. Closed body has a capacity for eight.

Center: Seagrave sedan pumper furnished the city of Detroit. This machine is powered with a 12-cylinder, 240 horsepower motor and is rated at 1,000 gallons per minute.

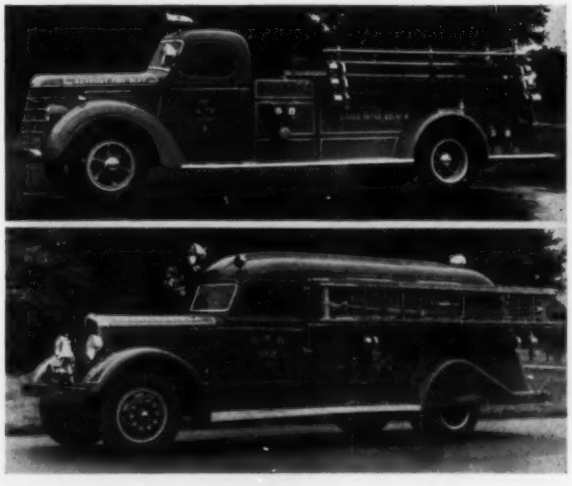
Bottom: Seagrave safety sedan delivered to Takoma Park, Maryland. This machine is an 8 cylinder, 150 horsepower job.

Enclosed cab type hose car built by Ward-LaFrance Truck Corp., for the city of New York. This is one of an order of five which were recently delivered to New York City.



Upper: 1,000 gallon pumper, with cab, built by Peter Pirsch & Sons Company for Racine, Wisconsin.

Lower: City service ladder truck built by Pirsch for Mishawaka, Ind., Fire Department. This truck also has a closed cab.



Upper: 500 gallon pumper, with closed cab, built by the Buffalo Fire Appliance Corp., for the Eagle Hose Company, No. 4, of the Keyport Fire Department.

Lower: Fully enclosed pumper built by Buffalo for Canandaigua Fire Department. The company offers two different types of fully enclosed pumpers; the one, which is illustrated, shows suction hose, ladders, extinguishers, carried on the running board. In the other type, everything is carried inside the body.

All Makers of Fire Apparatus Are Now Building Closed Body Jobs

In August, 1934, an editorial appeared in FIRE ENGINEERING pointing out the advantages of closed apparatus. Chief Hendrix Palmer, of Charlotte, N. C., "thought so much of it" that he recommended the purchase of a closed 750 gallon triple combination pumper. The machine was ordered, and was delivered in 1935. While he said that "if it does not work out satisfactorily, I am going to hold you responsible for the same, as it was your idea," he deserves a lot of credit for his courage in adopting a type of machine that had until then been untried in this country. Of course, developments since that time have proven the soundness of Chief Palmer's judgment. All builders are now turning out closed machines.

double 11-inch cylinders, 6⅝-inch pumps, square upright boiler, and with a weight of 11,820 pounds. It threw a horizontal stream through 2½-inch hose, with 1½-inch nozzle, a distance of 297 feet.

The Steam Fire Engine Develops

From this beginning the development was gradual. At first, it was retarded by the foolish spirit of opposition that so often shows itself when progress is on its way. This finally was overcome, and the very men who opposed the advance became the most enthusiastic in advocating its adoption. By the early part of the present century, the steamer had come into general use, and vast improvements had been made in its operation and efficiency.

Aerial Trucks and Water Towers

As building construction progressed, and taller structures began to make their appearance, especially in the larger cities, the fire-fighting problems became more and more complex. Means had to be found to rescue human beings from the upper floors of these high structures and to aid in fire fighting. In answer to this need the aerial ladder truck made its appearance. The original truck, of some fifty or sixty years ago, was of very different type from the modern aerial, with its extension of 80, 90 and 100 feet.

The necessity for delivering water to the upper stories of these high structures when the fire had advanced to such a stage that heavy outside streams were needed became apparent. The answer to this problem was the invention of the water tower, an extensible pipe that could be raised as high as the fifth or sixth story of a building, so that a serviceable stream could be directed through the windows of the burning structure direct to the seat of the fire. The modern water tower is sixty-five feet in height and by placing against the opposite curb, can be made to reach the windows of the eighth story of a modern building.

Boston Adopts an Automobile Apparatus

Of course, this would be inadequate in fighting fire in the skyscraper of from forty to eighty stories. This is taken care of by the installation of interior standpipes, with hose placed on every floor, ready for instant use.

The Influence of the Automobile

In the early years of the Twentieth Century a new type of propulsion had come into use. The "horseless carriage" made its appearance. In a paper read before the thirty-first annual convention of the International Association of Fire Engineers, the late Chief Charles F. Swingley, of St. Louis, Mo., and reported in the August 26, 1905 issue of *Fire and Water Engineering*, on the subject "Automobile vs. Horse-Drawn Apparatus," Chief Swingley said:

"I looked into the adaptability of the automobile for the use of officers of Fire Departments; the result was I purchased an automobile for my use. As to the advantagese of it over the horse: First there is a limit to a horse's endurance and also a humane limit to which a horse should be driven. . . . It required three horses to do my work and they were replaced every three or four years, and yet, when I was compelled to make a long distance run, or two or three in succession, it was with reluctance that I made my noble horse travel faster than any horse should be driven for a long distance under such circumstances. . . . Now, with the automobile, you experience none of the unpleasant things named. You simply crank your machine and you are off. As to the relative safety, I will say I think the automobile safer than the horse, running at a high speed."

A Horse-Drawn Steamer Under Way
This photograph was taken at Brockton, Mass., on July 30, 1911.

In the November 10, 1906, issue of *Fire and Water Engineering* is described a newly adopted fire engine for the Boston Fire Department as follows:

"In the construction of the Boston fire automobile engine, ordinary touring lines have been adhered to in the design of the framing and propulsive machinery. The 4-cylinder engine under the hood is rated at 28 horsepower and is water cooled; ignition is by jump spark, with battery as the source of current. A three-speed sliding gear of the progressive type is controlled by a single hand-lever and final drive is by double side chains to the rear wheel sprockets. The maximum speed is 30 miles per hour and the weight of the car complete is 4,600 pounds. The fire-fighting equipment consists of a complete chemical engine outfit, including two tanks, each having a capacity of 35 gallons, small portable extinguishers, axes, lanterns and other necessary paraphernalia. The big gong on the right hand side is of fire-engine character. A windshield in front protects the driver and there are hand rails on the front seat. Solid rubber tires are fitted to the wood wheels, as delays from tire trouble would destroy the usefulness of the machine to a prohibitive extent."

Test of an Early Pumper

In the January 13, 1909, issue of *Fire and Water Engineering* appeared this item:

"At Quincy, Ill., an automobile fire engine, a steamer and a hose wagon had a competitive test. The auto ran four blocks through mud, made four turns in thirty-two blocks and had the hose laid and a stream playing in eight minutes and 32 seconds. The steamer and hose wagon had two muddy blocks to traverse and was beaten by several blocks, no stream being thrown by it until three minutes after its rival had got to work. For part of the way the auto machine was running at the rate of 45 to 50 miles an hour. A six-cylinder automobile, in which were several city officials, had its work cut out in trying to keep up with the auto engine."

Thus was ushered in the most important era of progress, as far as apparatus were concerned, of the fire service; an era which completely revolutionized the science of fire fighting. There was, undoubtedly, spectacular interest and romance in the horsedrawn apparatus that the new style fire-fighting devices lacked. The general public—and, in fact, many of the fire-fighters themselves of that day—bitterly regretted the passing of the fiery and intelligent animals they had been accustomed to visualize as part of the profession. But, nevertheless, the passing of the horse stood for progress in fire fighting and a substantial reduction in fire losses, both as to property and human life.

The motor apparatus had come to stay. It was now a matter of development and progress in the design and manufacture of the machines. One of the most important and far reaching of these was the adoption of the pneumatic tire for the heavy apparatus of the Fire Department. This move met, at first, with great opposition. Chiefs felt, probably with justice, in view of the unperfected condition of the early tires, that the inflated variety was too risky to use in an apparatus that must at all times be ready for service.

In time, however, through vast improvements in the manufacture of pneumatics, this opposition has been overcome, and at the present day practically all fire apparatus are equipped with the inflated tires.

Shorter Wheel Base in Trucks

A development that has made much headway abroad, but which is not yet fully adopted in this country, is the shortening of the bodies of city service trucks and aerials. The advantages claimed for this type of apparatus are greater mobility and steadiness. Multi-section aerial ladders telescope into smaller bodied trucks, and, as at present built in this country, extend to 100 feet in height.

Closed Bodies for Fire Apparatus

The latest improvement and perhaps the most revolutionary in its effect on both the design and the safety features of the fire engine, in the adoption of closed bodies. This tendency is taking hold of the fire-fighting field and has apparently come to stay. The advantages are so apparent that Chiefs are beginning to look very favorably on this type of design for pumpers and similar apparatus. For the longer and more unwieldy machines, closed cabs are being adopted quite generally.

It has become recognized that the efficiency of the men is greatly increased by the protection afforded by the covered bodies in inclement and severely cold weather. If they arrive at a fire chilled to the bone and soaked with rain or snow, it stands to reason that they cannot do as good work or move as quickly as if emerging fresh and warm from a protected conveyance. Also, after fighting a blaze in sub-zero weather and being covered with ice, they are conveyed back to quarters in an exposed apparatus, severe colds and perhaps other pulmonary troubles may develop, thus depriving the department of their services, not to speak of the danger to their health and lives.

Another important advantage of the closed apparatus is the comparative safety of the men in case of a collision and the lack of damage to the closed apparatus as against the old fashioned type. This has been demonstrated in several accidents that have occurred. For instance, in Charlotte, N. C., a closed truck collided with a taxicab, that crossed its path when answering an alarm. The taxicab was demolished and its driver critically injured, but none of the men riding in the interior of the apparatus was injured, and the captain, who was in the cab, suffered only a sprained shoulder, not serious enough to incapacitate him from service.

Men in Closed Truck Not Hurt in Apparatus Collision

In Detroit one man was killed and two others were severely injured when an open truck of the Fire Department collided with a closed body apparatus. Only the men riding on the open truck suffered severe injury, those in the closed apparatus escaping scot free. The officer in charge of the closed car said on this occasion: "If we had been in an open engine, we would all be in the morgue right now."

Quo Vadis?

What will be the next startling development in fire apparatus? Possibly the airplane may come into the picture; who knows? Viewing the great developments in the past twenty-five years, certain it is that the next decade will witness many changes in fire-fighting methods and in the machines which will be used to conquer man's worst enemy—Fire.

Compulsory Firemanship for Nazi Youth

More and more time is being demanded of German youth by the Third Reich. Hitler Youth Camps are old history. The latest decree, announced by the Reich Education Minister, is that all boys at the age of eleven must report for a year's training in the country.

After the boys have mastered the rudiments of marching and camp routine, they are given a course in fire fighting. The motive back of this move is that there will be a large army of firemen in the event that an airplane bombardment causes general conflagrations. The Reich, however, states that the move is to instruct the boys in general country life, to make for a closer relationship between city and country.

The boys also have to go to school so that the elementary education may not be neglected. They are also given instruction in erecting their own homes, farming, and all the routines of farm life.

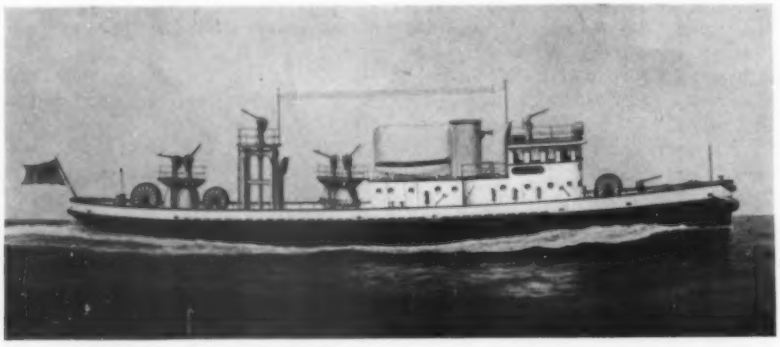
Right: Training in Net Jumping. Below: Fire Brigade of Nazi Youth in Action at the School

What Trend in Fire Boats?

Opinions of Designers, Regarding Size of Boats and the Merits of Small Size Craft for Fighting Fire

EARLY this year the city of Chicago, Ill., the second largest city in this country, added to its fire fighting equipment a new fireboat. Of particular interest and significance was its size.

Instead of duplicating or exceeding the size of boats already in service in that city the new craft was materially smaller. Its dimensions are as follows:



New York City's Fireboat "John J. Harvey"

Length overall, 90 feet, 6 inches; length on the water line, 87 feet; beam, moulded, 22 feet, 4 inches; depth, moulded, 11 feet; draft, extreme, 6 feet, 9 inches; height above water line, 15 feet; speed, 15 miles per hour; power, propulsion, 750 brake horsepower; power, pumping 1,000 brake horsepower; pump capacity, 150 pounds, 7,500 gallons per minute; pump capacity, 300 pounds, 3,750 gallons per minute; accommodations for eight men.

How this boat compares in size with a modern boat in our largest city, New York, may be gathered from the following data on the Fireboat John J. Harvey, built in 1931. Length, 130 feet; 123 feet on the load water line; 12 feet, 9 inches in depth; 8 feet, 6½ inches draft, and 23 feet from the water line to the tip of the mast. Speed, 18 miles per hour; total horsepower, 2,740; capacity, 16,000 gallons per minute at 150 pounds pressure.

Has a trend to small boats been started? This question is today in the minds of many Fire Department officials and a large number of them believe we are headed toward the smaller craft. The arguments of shallower draft, greater mobility and quicker response of two or more small units over a single unit are commonly advanced. The limited number of large fires requiring the full capacity of the large boat appears as another sound argument for the smaller unit. The value of having small boats stationed at strategic points, rather than a single large boat at a central point, is also held as a strong argument for the smaller boat.

Deputy Chief A. J. Mullaney, of Chicago, who has made a thorough study of fire boats, is of the opinion that a fireboat approximately forty to fifty feet in length, providing for a crew of not more than four men and with three thousand gallons maximum capacity would be better, from the standpoint of price and personnel, than even a boat of the size commonly found today in large seaport cities.

W. E. Whitehouse, of the Defoe Boat and Motor Works, Bay City, Mich., successful builders of fireboats, is of the opinion that hull should be about 60 feet in length and 15 feet, 6 inches to 16 feet beam, so as to give plenty of room for the engine and pump installation. A hull of this description, he states, could readily be built of steel, all welded with longitudinal framing, such as employed on the new fireboat "Fred A. Busse" of Chicago. He is strongly in favor of making all portions steel, that is, hull, houses, deck, bulkheads, etc.

In a hull of such description either twin or triple engines could be used. For ordinary purposes he believes that twin engines, double ended, would suffice, these engines being used both for propulsion and for pumps, with the use of clutches, as in the fireboat "Fred A. Busse." If it is desired to go a little further, however, a third engine could be installed in a vessel with the before mentioned beam, so that this third engine on the centerline could be used for maneuvering only. Two engines of about 160-170 horsepower, each driving two pumps, with a properly

Diesel Fireboat "Fred A. Busse" of the Chicago Fire Department

installed pipe line, he believes, should give this capacity of about 3,000 gallons per minute at 125-150 pounds pressure.

The boat should be built with a pilot house forward, but in place of a deck house abaft the pilot house, this should have a trunk cabin over the engine room containing the windows for engine room ventilation, this trunk to be kept as narrow as possible so as to give a good full deck space. The hose manifolds could then be brought up directly from the engine room, either at the trunk side, or at the after end of the trunk. This would leave the forward and aft deck open for turrets, if they were desired. He further believes that a boat such as outlined, all steel, all welded, heavily and ruggedly built could be put through economically and make a serviceable and efficient little fireboat.

Other boat builders also hold similar views, John Alden, a boat designer of Boston, has made considerable study of the smaller units and is of the opinion that they are highly practicable.

As noted, Fire Chiefs, too, have been giving the matter considerable thought and among those located on the seaboard, there are many who feel that the future in water front fire fighting will find many of the smaller units doing service in an excellent manner.

It is a field which is yet to be fully explored, but the future looks promising for the smaller craft.

SPOKANE TO ASK FOR 1938 CONVENTION OF INTERNATIONAL ASSOCIATION

Offers Many Natural Attractions for Visitors and Promises a Truly Outstanding Meeting

AT the Oklahoma City convention of the International Association of Fire Chiefs, Spokane, Washington, will extend an invitation to the Association to meet in that city in 1938.

Because of the outstanding convention of the Pacific Coast Association of Fire Chiefs staged in that city in August, Chief W. P. Payne feels Spokane is particularly well fitted to handle the 1938 meeting of the International.

Here's what he has to say:

"I know we can entertain a gathering the size of the International as we have had three conventions here during the past three years. The registration of these conventions has ranged from five hundred to eleven hundred. Our organization is already set up and functioning and we have quite a sum of money left in the treasury, with more coming in.

Chief W. P. Payne

"We have untold attractions to offer. Three great National Parks are but a short day's drive from the city. We have 57 lakes within 90 miles of the city, which are well stocked with some of the gamest fish in America. The Grand Coulee Dam at that time will be over half completed and we plan on taking all of our guests down, at our expense, to view this project."

The Grand Coulee Dam is 92 miles west of Spokane. It is under construction by the U. S. Bureau of Reclamation. Controversy to the contrary, its vastness, its gigantic scope and its tremendous testimony to the ability of men, is beyond comprehension until actually seen by a personal visit. It is reached by highways from the city—this miracle of engineering and science. It has rightly been called "the biggest thing on earth" and is attracting thousands of visitors from all parts of the world.

If the 1938 Convention goes to Spokane, the delegates will find a very alert, progressive host, Chief W. P. Payne. Chief Payne entered the Spokane Fire Department, August 9, 1901. On the 14th of July, 1911, he was promoted to Lieutenant and December 13, 1915, found him sporting the Captain's horns. In 1929—April 1 to be exact—he changed insignia again, this time as Assistant Chief, and on February 1, 1933, he became Chief Engineer. His progressiveness is shown by the advancement of the Spokane Department. Through reorganization and modernization of the department the city of Spokane was promoted from third to second class by the National Board. Last year the city placed second in the National fire prevention contest.

Business Section of Spokane, Wash.

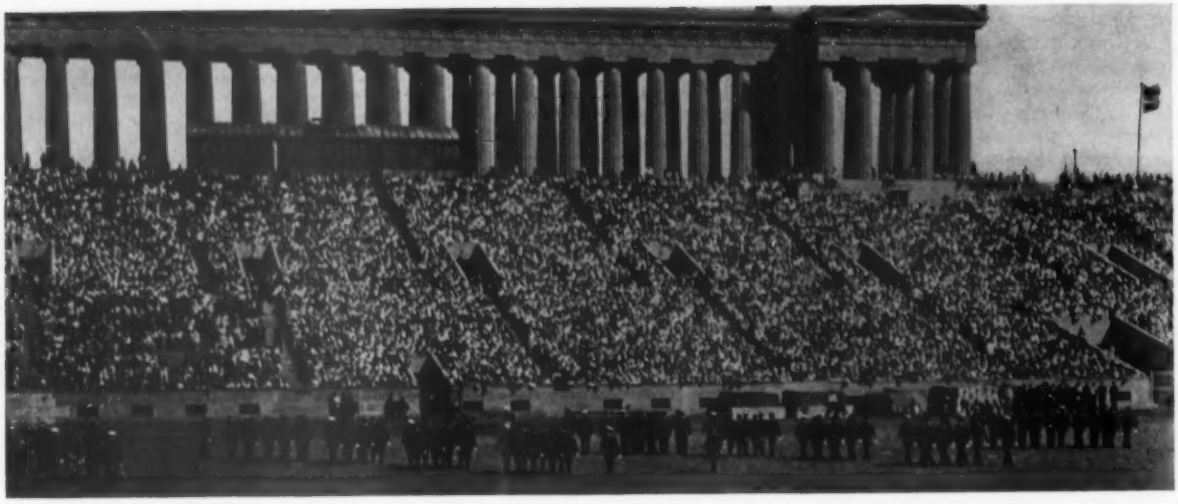
Free Taxi Rides for Firemen

It is cheaper to send firemen to calls in taxicabs than to send out the city equipment for them. That is what Saginaw, Mich, found when it made a cost analysis. It now has an arrangement with three of the local cab companies that firemen are to get free rides. Here is how the plan works.

A check-up by the city revealed that out of forty-five men on a platoon, about fifteen were usually out of the city. The city has filed with each cab company, a list of names, addresses and telephone numbers of each platoon of firemen.

With the new plan, when the alarm dispatcher needs an extra platoon, he calls the three companies and gives them instructions to pick up the members of a particular platoon. The men get a ride to the scene of the emergency, but they must show an identification card to the cab driver. The city pays for the ride to the call, and for that ride only.

Saginaw, cheered by the success of this plan in reducing city expenditures, is now contemplating extending this taxi-to-work idea to other emergency employees.



First National Fire Service Tournament a Success

Good Sportsmanship Prevails as Volunteers and Professional Firemen Meet—Unexpected Errors Amuse the Spectators

By ROBERT GREENOCK

MORE than 130,000 persons thrilled to screaming sirens and clanging bells in Chicago's Soldier Field September 5 and 6 at the First National Fire Fighters Tournament, when 10 professional and 20 volunteer departments competed for $2,750 in cash prizes.

Winners of the Prizes

Colorado Springs, Col., won the $1,000 cash prize, as winner in the all event class of the professional departments. Each of the eight individual members of the winning team received a medal.

Chicago, as runner-up, received the Mayor Edward J. Kelly Trophy.

In the volunteer class, Western Springs, Ill., won the $500 first-place prize in the all event class, the six members of the team each receiving a medal, while Steger, Ill., received a duplicate of Chicago's Mayor Kelly Trophy for being second.

Winners in the individual evolutions and the prizes received:

Volunteers, Sunday, September 5

Wall Scaling: Steger, Ill., $50.
Raising Ladders: Sault Ste. Marie, Mich., $50.
Tower Rescue: Western Springs, Ill., $50.
Water Fight: Lake Zurich, Ill., $50.
Alarm Response and Hose Layout: first, Crystal Lake, Ill., $50; second, Menomonee Falls, Wis., $30 and, third, Morton Grove, Ill., $20.
(In the last event, there was $50 added and contestants agreed to the 5-3-2-split.)

Professionals, Labor Day, Monday, September 6

Raising Extension Ladders: Colorado Springs, Col.; Oak Park, Ill.
(In these events, $60 went to the first and $40 to the second teams.)
Pompier Drill (one man): Chicago, Colorado Springs.
Pompier Drill (two men): Colorado Springs, Evanston, Ill.
Pompier Drill (four men): Colorado Springs, Louisville, Ky.
Aerial Ladder Rescue: Chicago, Colorado Springs.
Life Line Rescue: Chicago, Colorado Springs.
Life Net Rescue: Colorado Springs, Baltimore, Md.
Fire Line to Roof via Aerial Ladder: Gary, Ind.; Evanston, Ill.
Fire Alarm Response: Chicago, Louisville.
Advance Charged Lines to Upper Floors: Colorado Springs, Chicago.
Water Fight ($100): Chicago.

Cities Which Competed

Cities competing in the professional class were: Chicago, Cicero, Ill.; Colorado Springs, Baltimore, Louisville, Gary, Ind.; Oak Park, Ill.; Rockford, Ill.; Pittsburgh and Evanston, Ill.

In the volunteer class, those who competed were: Adams, Wis.; Abingdon, Ill.; Western, W. Va.; Parsons, W. Va.; Sault Ste. Marie, Mich.; Markle, Ind.; Hartford, Wis.; Menomonee Falls, Wis.; Oconomowoc, Wis.; Dunkirk, Ind.; Portage, Wis.; Morton Grove, Ill.; Steger, Ill.; Western Springs, Ill.; Lake Zurich, Ill.; Crystal Lake, Ill.; Riverdale, Ill.; Willow Springs, Ill.; Elmhurst, Ill., and Hazel Crest, Ill.

Naperville, Ill., and Horicon, Wis., were unfortunate in having members of their teams crippled during fires which occurred a day or so before the contest. These cities, however, gamely sent their bandaged teams to look on and cheer the other contestants.

Wind Blows Tower Down

An unusually strong gust of wind on Saturday morning blew down the wooden four-story tower upon which the evolutions were to be performed. Fireman Ronald Ford, 34, a member of the Evanston Fire Department

which happened to be drilling at the time, was on top of the structure when it went down. He "rode" it down and received a fractured wrist and bruises.

The only casualty of the show itself was Fred J. Ashley, Chairman, who inadvertently ignited a book of matches while lighting a cigarette and suffered painfully burned fingers as a result.

Parades of Old and New Apparatus

A parade of old and new apparatus preceded each day's show. Old hand-drawn pumpers, horse-drawn steamers and modern pumpers and ladder trucks vied for the applause of the crowd. Three veterans of the great Chicago fire of 1871 rode proudly around the stadium, while the immense crowd rose to its feet in tribute. They were George Leady, Isaac M. Adler and Charles H. Schroeder, all members of the Chicago Retired Firemen's Association.

In the parade of modern apparatus were pumpers from nearby cities. From Chicago were several ladder trucks, a squad car, two water towers equipped with crows' nests, high pressure wagons, ambulances, a smoke ejector, Du-Gas wagon, light wagon, air-compressor and several pumpers, including a quadruple combination.

Fire Commissioner Michael J. Corrigan, the Honorary Chairman, made the opening remarks over the public address system each day. In addition, he and Anthony Mullaney, First Deputy Chief Fire Marshal participated in a nation-wide radio hookup from the field on Sunday.

Steel Braced Tower Used in Evolutions

The tower which was used in the evolutions was a four-story steel-braced affair, placed at the north, or open end of the huge horseshoe. On the east and west sides of the field at the south end were built two platforms, each a story high. Shiny brass poles were fitted so that in the alarm response and other evolutions, the men could "bunk" at a given signal. At least two companies competed at the same time in each event with as many as three competing in pompier, rope sliding and net rescues. The tower, constructed with three sets of windows, made this possible.

Several exhibitions were given by the Chicago department during the volunteer meet of Sunday. These included pompier work, ladder raising and an aerial ladder rescue.

On both days the Chicago Insurance Patrol, under direction of Chief Frank C. McAuliffe, gave a demonstration of salvage operations. With sirens screaming, patrolmen from Patrols 3 and 5 took turns in circling the field and covering barrels and boxes piled high in the center of the arena to simulate a warehouse. The new sedan-type apparatus of Patrol 5 brought many oh's and ah's from the crowd.

Truck Motor Gives Trouble

Chicago firemen had occasion to blush twice during the meet. On Sunday the crew for Truck 1 gathered in the "bunkroom" of the house on the west side of the field preparatory to answering an "alarm" from the tower. At the sound of the gong, the men slid the poles, flipped the rig and quickly donned helmets and firecoats.

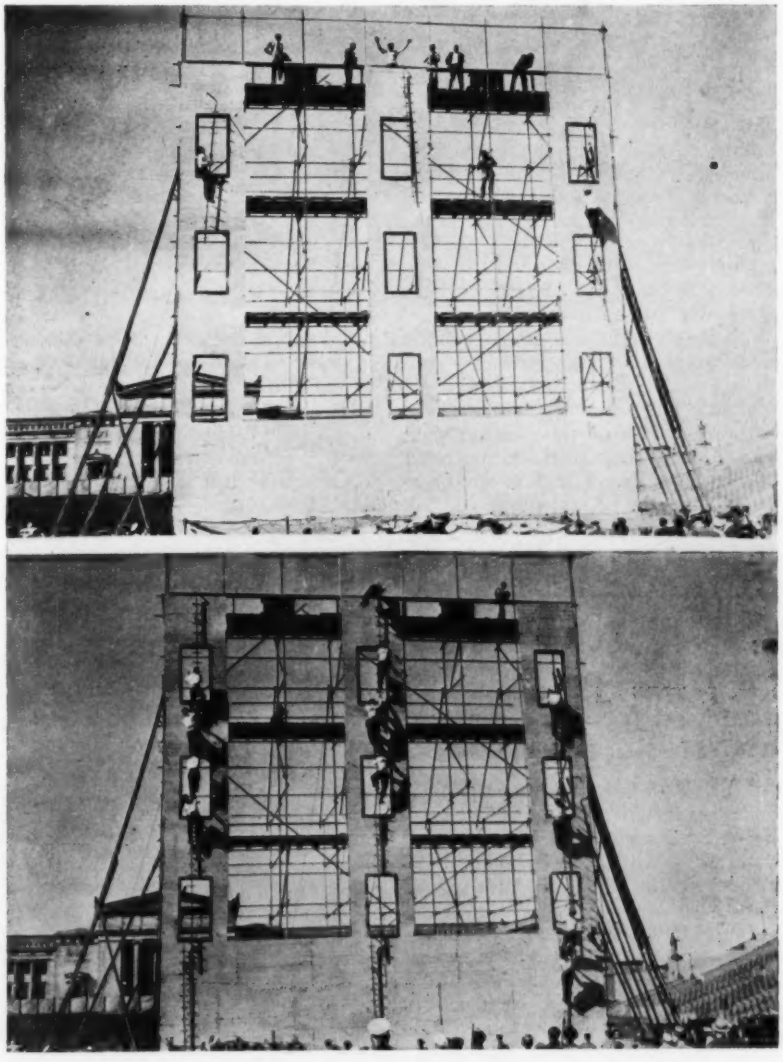
Meanwhile the driver fussed and fumed with the motor, but the starter just wouldn't work. The crowd watched and laughed, delighted. A mechanic emerged from the sidelines to work furiously, but all to no avail. (They had had trouble with the motor during the parade.)

Chief Mullaney stepped to the microphone, informed the crowd about the trouble, explained that in case of a real fire, another truck would have been dispatched by the alarm office and that the show would go on with another event while repairs were made.

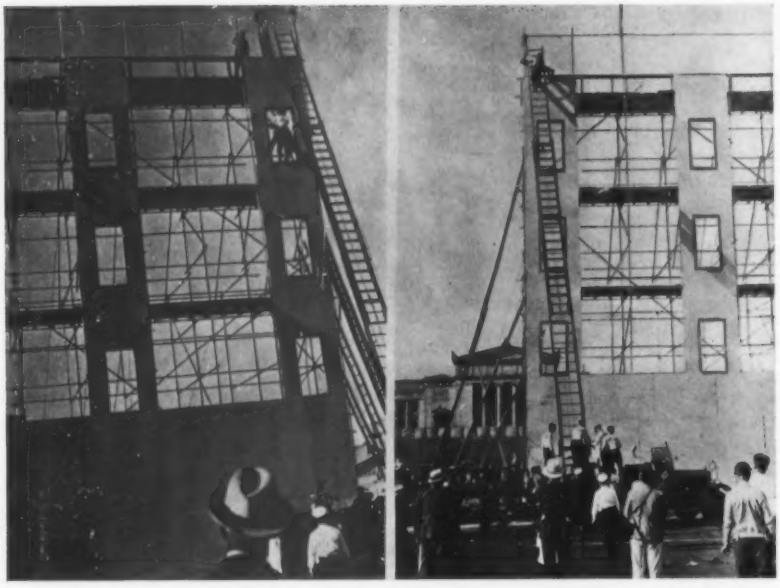
At that moment, the motor started with a roar and Truck 1, siren howling, whizzed down to the tower and threw up its aerial in record time.

Dummy Forgotten in Net Evolutions

On Monday, after the first two teams had completed the life net



Pompier Evolutions by the Contestants
Upper, pompier evolution, one man straddle sills, and, lower, pompier chain evolution.



The Chicago Fire Department Demonstrates Its Skill
Left, rescue with belt by Chicago firemen, and, right, the start of an aerial ladder rescue.

rescue evolution which consisted of taking the net from the truck, and running with it to the tower where a dummy was tossed from the top floor and caught, Chicago and Baltimore lined up.

Both teams made good time in getting the nets off the trucks, running over to the base of the tower. With just a slight lead, Chicago stood waiting for the dummy to plunk into their net. Baltimore lined up. Plunk. Their dummy thudded into their net. Men on the Chicago team looked up to the top to see their man gesturing widly. They had forgotten to send up the second dummy.

Because the fault did not lie with the Chicago team, the Baltimore firemen readily agreed to try it again. The top man for the Louisville aggregation got a big hand from the crowd when, in his overzealousness, he let the dummy drop before his team was set. Pete (the dummy) suffered no serious injuries, however.

Contenders Show Good Sportmanship

Good sportsmanship was exhibited by all contenders. In the ladder raising events, several teams were used to working with trussed ladders. Inasmuch as the rules called for taking the ladders from the trucks and the trussed ladders would not fit on Chicago's trucks quite a problem was presented until the several teams good-naturedly agreed to use the regulation Chicago ladders.

On two occasions hose lines burst, drenching those sitting in the front rows. Many a spectator's heart thumped as the competing crews sped head on toward each other to stop with inches to spare before the tower.

Despite a chilly, cloudy day, more than 45,000 persons saw the show on Sunday and on Monday, a bright sunny day, the great arena was packed. The water fights seemed to intrigue the spectators. Four teams competed at one time, being matched in pairs. The two metal balls (placed in play in the center of the arena on wires suspended above the heads of the men) danced wildly back and forth.

On one occasion, one team lost its line, which thrashed wildly about until "stagehands," in the persons of Chicago firemen, threw themselves upon the line without benefit of boots, rubbercoats or hats. They got drenched and the crowd got a laugh.

At the banquet tendered the contestants in the Old Town Room of Hotel Sherman on Monday night, Commissioner Corrigan said he felt sure that the tournament would become an annual affair with many of the larger cities clamoring for the privilege of being host.

Crowd Votes for Annual Tournament

In answer to the question "Shall we have another tournament next year?" put to the crowd on Monday by Harry Rogers, Chief Engineer of the Western Actuarial Bureau and nationally known "fire clown," a huge thundering "yes" brought smiles of satisfaction to the faces of tired officials, especially Chief Mullaney, who put in twenty-two hours straight time in getting the tower erected after the first one blew down.

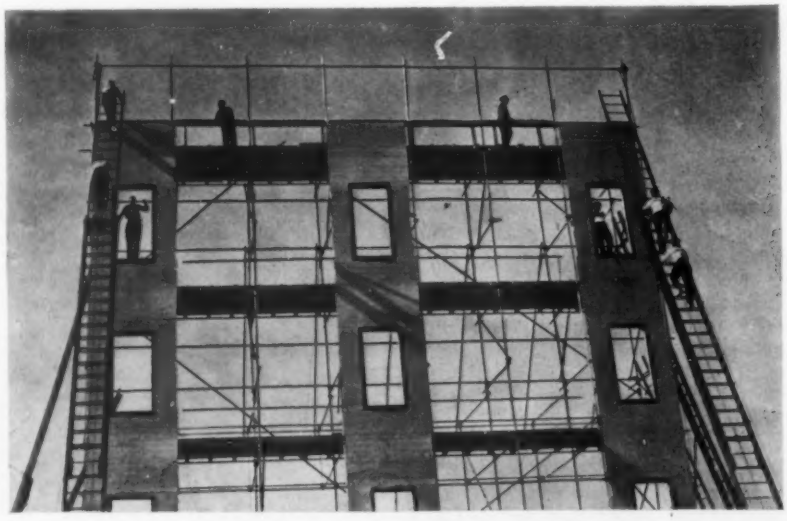
The tournament was sponsored by the Chicago Charter Jubilee. It was approved by the Chicago Board of Underwriters which put up the $1,500 awarded to the all event winners. The other prize money for the individual events was given by the Jubilee committee.

Members of Various Committees

The various committees whose members worked so hard to make the tournament the huge success it was, were:

Michael J. Corrigan, Fire Commissioner, Chicago, Honorary Chairman; Fred J. Ashley, Chairman.

Committee on Rules and Events: John Neale, Chief Engineer Chicago Board of



Colorado Springs and Chicago Firemen Compete
A climb for rope slide, with Colorado Springs firemen at left and Chicago firemen at the right.

Underwriters; Clarence Goldsmith, Assistant Chief Engineer, National Board of Underwriters, and Harry Rogers, Chief Engineer, Western Actuarial Bureau.

Judges' Committee: L. A. Provine, Director Fire College, University of Illinois; Sherman V. Coultas, Fire Marshal, State of Illinois; Robert J. Bogan, Chief, Baton Rouge, La.; John J. O'Brien, Fire Marshal, State of Indiana, and Ray W. Alsip, Secretary, Illinois Fire Marshal's Association.

Special Tournament Committee, Chicago Board of Underwriters: R. M. Cunningham, Chairman, R. R. Blossom, James M. Newburger, A. F. Powrie, Fred J. Sauter, Jay S. Glidden, Ex Officio and Chief Frank C. McAuliffe, Chicago Insurance Patrol, Ex Officio.

Members of the winning teams in the all events classes were: Colorado Springs: Lt. O. L. Dutcher, Lt. H. J. Richter; F. H. Lausch, E. E. Thurman, H. F. Davis, E. D. Gustavson, B. M. Barbee and J. T. Gehley, firemen.

Chicago: Battalion Chief A. J. Brady; Peter Grubba, Howard Strohacker, William Sedlack, Matthew McDonough, John W. McGurn, Irving Boerschinger and Walter Celmer, firemen.

Western Springs: Chief Waldo Erickson, Lt. G. H. Schreder, Engineer George Winkleman and Lester Warner, Ernest Johnson, John Ogren, Walter Mayor and Art Winkleman, firemen.

Steger: Capt. Henry Boettger and Ernest Rohr, George Rohr, Elmer Guecke, Henry Martin, Clem Seiter, F. J. Rutkowski, Bernard Franzman, firemen.

Fire Conference Held in Massachusetts

The third annual Northeastern Forest Fire Conference was held September 9 and 10, with meetings in the Myles Standish State Forest in South Carver, Mass., in the Hotel Samoset at Plymouth, and in the Shawme State Forest. There was an attendance of 160 and all the New England States, except Maine, were represented. A serious fire hazard in the latter state prevented the forestry officials from attending.

A demonstration and exhibition was held of various types of forest fire trucks, including gasoline driven pumps, tank trucks, and a new type of truck that can force its way through the woods along a fire line. Smoke bomb signals and portable radio equipment were also tested. District Forest Warden Charles Woodman, of Oxford, Mass., was in charge.

Visits were made to water holes and trips were made to the plants of the Plymouth Cordage Company and the Maxim Motor Company. A banquet was held at the hotel in Plymouth.

Speakers were Maxwell C. Hutchins, State Fire Warden of Massachusetts; Assistant State Fire Warden Lathrop, Connecticut; District Fire Warden Charles Young, New Hampshire; Fire Commissioner Henry Walton, Plymouth; Crosby Hoar, of the United States Forest Service; Harold O. Cook, Massachusetts State Forester; Representative Ira Ward, and John P. Crowe, Assistant State Fire Warden of Massachusetts. An invitation was received and accepted to hold next year's conference in New Hampshire.

HARRY BELKNAP.

"FIRE ENGINEERING" CELEBRATES ITS SIXTIETH ANNIVERSARY

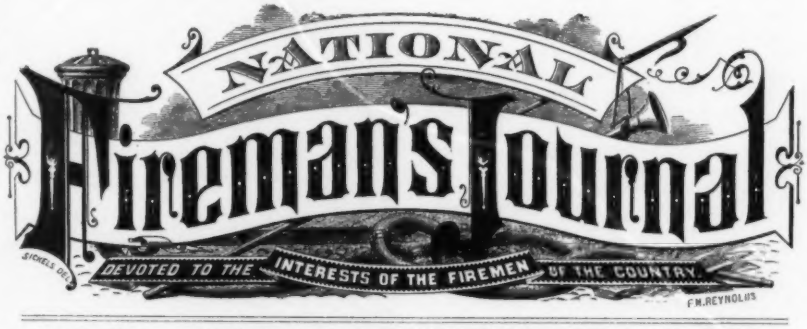
Profound Changes Have Taken Place in the Fire Field in the Six Decades of Service of This Journal

NOVEMBER 17 marks the 60th Birthday of FIRE ENGINEERING. Established in November, 1877, the first issue appeared on the 17th of that month. FIRE ENGINEERING has been issued continuously since then, though there have been four changes in name since its founding.

Uphill Work

The first ten years of the life of this journal were indeed the hardest. At that time trade journals and engineering magazines were few, and they had difficult sailing during the period in which it fell their task to demonstrate that there was a place in the publishing field for such journals.

The National Fireman's Journal, for such was the name of this publication from its inception until January 4, 1879 (when it changed its name to the *Fireman's Journal*), was no exception. Little



VOL. I. No. 1. NEW YORK, SATURDAY, NOVEMBER 17, 1877. $2.00 PER ANNUM. SINGLE COPIES, 5 CENTS.

The Fire Last Night.

BY FLEYA FORRESTER.

Ding! dong!
Ding! dong!
The alarm flashed over the wire:
The quick horses sprang
To their places, and—clang!
The steamers rolled off to the fire.

Fire! fire!
Fire! fire!
The heavens grew red with its light;
The sparks sifted down
O'er the slumbering town,
Asleep in the dead of the night.

Bright! light!
Bright! light!
The people they waked; they came
And some of them thought
That the world had caught,
When they saw that leaping flame.

Hiss! hiss!
Hiss! hiss!
The steamers they all worked hard
Till the flames grew slim,
And the sky grew dim,
As the fire and the water warred.

Ding! dong!
Ding! dong!
Came at last the signal toll,
And the people said,
By their change in tread,
"The fire is now under control!"

Out! out!
And they wheeled about;
The last faint gleam was dead,
And from smoke and damp;
With a hurrying tramp,
The world rolled back to bed.

Companion.

OLD VOLUNTEERS.

EIGHTEEN YEARS AGO

THE LAST TRIENNIAL PARADE OF THE NEW YORK VOLUNTEERS.

There are hundreds of old fire vamps not only in the city of New York, but throughout the United States, who look back with no ordinary degree of pride to the palmy days of the Volunteers. Notwithstanding the ups and downs that they passed through while in active service, there were many pleasant re-unions, the recollections of which cannot but recall old friends, many of whom have "gone to that bourne from whence no traveler returns," while others are scattered over various sections of our country. We have therefore concluded to recall those many interesting events, some of which will appear in each number of the JOURNAL.

Among the rank and file of the old Department could be found statesmen, judges, bankers, and merchants; in fact, no Department in the world ever had so many prominent citizens. Thirty years ago one would have been looked upon as of little or no account if he did not belong to a Fire Company, and it was a pride to have hanging upon one's walls one of those neat little Fire certificates, executed by that veteran Fireman, Samuel Maverick. A Fireman's life, while it was then attended with many arduous duties, embraced many pleasant events, which are still fresh in the memory of hundreds of New Yorkers. Could the walls of old Tammany Hall (now the *Sun* building), the Apollo, or City Assembly Rooms, speak, they could "many a tail unfold" of such re-unions. All that now remains of the old Department is the mammoth silk banner, which hangs up in an old, dingy looking glass case, on the top floor of Fireman's Hall. It was the gift of the city, the presentation taking place on the occasion of the last triennial parade, over eighteen years ago, October 17, 1859. The gift was made in front of the City Hall, while the parade outdid any thing of the kind ever known in New York before. Full seven thousand men were in line, and such a display of fancy carriages, engines, and trucks was never witnessed. Full one hundred and fifty companies constituted the procession, the men all uniformed in red shirts. As early as six A. M. companies were out receiving guests from other cities; the banner presentation taking place at nine o'clock, in the presence of several companies and the officers of the Department, the Mayor, and Common Council. Among those that took part were such men as David Milliken, of Hose 40, and President of the Department; A. F. Ockenhausen, the great sugar merchant; Albert J. Delatour, of Wall Street; ex-Mayor Wm. H. Wickham, of Hook and Ladder 15; old Uncle Dave Theall (deceased); Robert McGinnis, now of the Building Bureau; James Baremore, Fire Commissioner; Tom Lawrance (deceased); John R. Platt, the glass merchant; ex-President Henry Wilson, of the Board of Fire Commissioners; the present Fire Commissioner, John J. Gorman; Robert C. Brown, Engine 8; Alonzo and Daniel Slote, Commissioner Edward Bronnell; R. P. H. Able, of Engine 28; Ralph Trembly; John Gillehan; President V. C. King, of the present department, and of old 23 Hose; John Carland; Henry A. Burr; William Haw, Jr.; Sam Thomson; ex-Chief Engineers, Uzziah W. Wenman, Alfred Carson, and James Gulick; Judge A. A. Philips, of Engine 40 (deceased); ex-Comptroller Matthew T. Brennan, of Engine 21, and his brother, Owen Brennan; ex-Sheriff Wm. Conner; ex-Coroner Robert Gamble, of Hook and Ladder 16; Samuel Conover, now President of the Produce Bank, then Foreman of Hose 38; A. P. Moriarity, the painter; John Creighton, and many others of note that we might name had we the space. Mayor Tiemann presented the banner, which was duly received by David Milliken. Harry Howard, Hook and Ladder 11, having been selected to carry the banner throughout the parade.

After the presentation, Columbia Engine 15 escorted the banner company to the line of march on Fifth Avenue. As it passed the companies a perfect ovation greeted it. In size it was the largest ever presented on the street, being full twenty feet in height, and requiring eight men to carry it. The veteran Harry Howard was then Chief Engineer; John H. Cregier and John Baulch, the latter now Chief Engineer of the Fire Department at Fortress Monroe, acting as chief aids. There were eleven Divisions, the First being under command of ex-Chief Engineer John Decker, which was composed of the following companies; Massachusetts Hook and Ladder, of Charleston, Mass.; Neptune Hose, of Newburg;

Front Cover of First Issue of the "National Fireman's Journal"

advertising patronage, little organization in the fire field, together with the great predominance of volunteer departments, made the survival of this journal difficult in the extreme.

But the founders determined they would "carry on" at least for a while, against overwhelming odds. A sudden change in its fortune, however, occurred early in 1886, when a man joined the *Fireman's Journal* who was destined to pilot it to success and influence. This man was the late Frederick W. Shepperd, who took the helm when everything looked darkest.

It required but seven months for him to put the paper on its feet, and so promising did the field of it appear to him that he arranged to secure control of the journal, which he accomplished in November of the same year.

Immediately upon his securing control, he changed the name to *Fire and Water*, fully appreciating the close relationship of the two fields of fire protection and water supply.

From this point on there was continued growth of *Fire and Water* which was sustained through the 33 years during which he was proprietor.

Under his direction the journal took very definite stands on all of the problems designed to benefit the fire service.

Through the cooperation of *Fire and Water*, the International Association of Fire Chiefs grew in strength and influence.

On January 2, 1904, *Fire and Water* changed its name to *Fire and Water Engineering*, to better dignify the professions of fire engineering and water works engineering which it served.

The name was retained until January of 1926, when *Fire and Water Engineering* was separated into two publications, each serving its distinct field—FIRE ENGINEERING for the fire department field and WATER WORKS ENGINEERING for the water works field. This separation also included a consolidation of *The Fire Engineer*, the leading monthly fire journal, with FIRE ENGINEERING.

Due to failing health F. W. Shepperd severed his connections with the journal in November of 1918. He died in Brooklyn on February 8, 1921.

The present organization was formed in December of 1925.

During the 60 years covered by the life of FIRE ENINEERING and its predecessors, tremendous changes have taken place in the Fire Department field.

Paid departments have replaced volunteers, motor apparatus has replaced horse-drawn steam fire engines and other horse-drawn apparatus; tremendous progress has been made in the field of fire prevention, and finally, the fire service has been improved from the angle of personnel as well.

Elsewhere in the pages of this issue will be found data outlining the changes in the fire service during the past 60 years.

Kerosene Puts Out Fire

Here is a new one. Fire has been extinguished with milk, tomatoes, sand, gas, foam and water, but at Greenville, Ala., kerosene was put on a fire to extinguish it.

Fire was discovered in nine cotton bales and it threatened to spread to 1,000 other bales in the warehouse. Claude Baisden, Manager of the local water works, called for kerosene.

Cotton men explained that water cannot penetrate bales of cotton, while kerosene, which will not ignite if the fumes are not mixed with oxygen, will smother out the fire inside the bales.

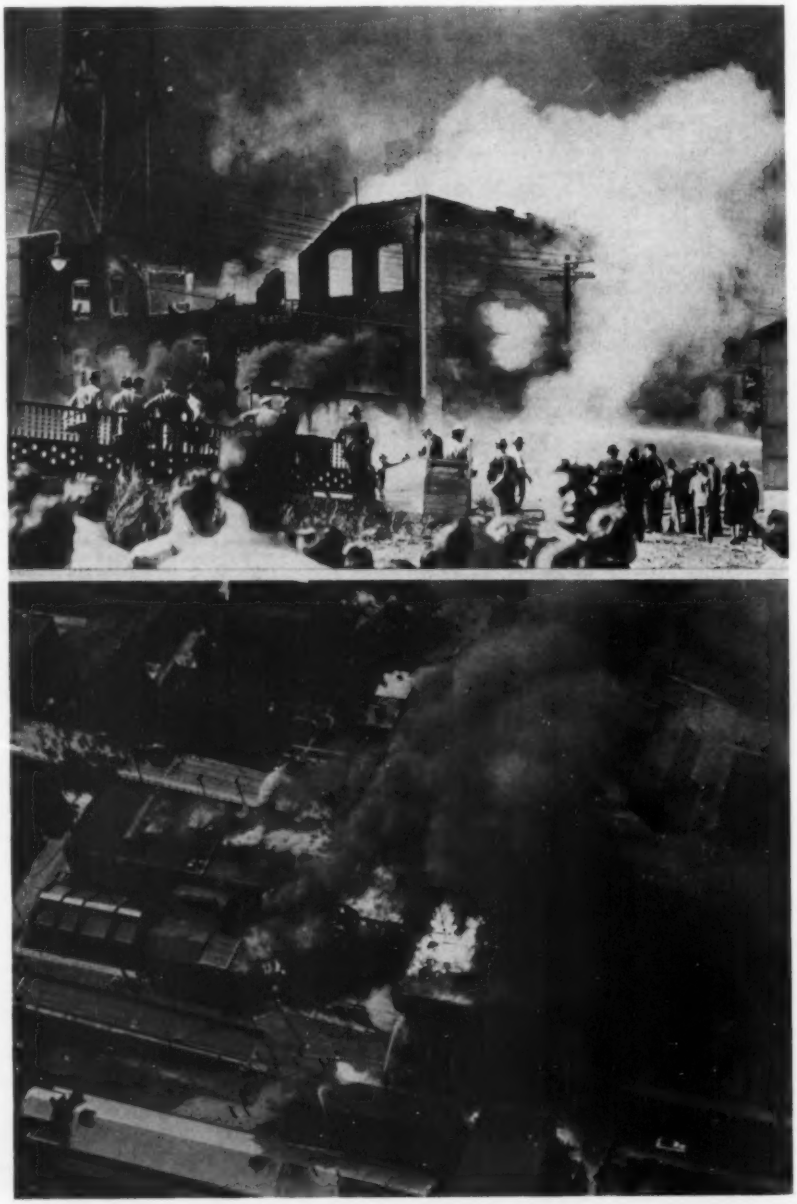
N. J. Towns Fight Drug Fire

Fire companies from Weehawken, Hoboken, Union City and West New York, N. J., united to fight a fire which broke out in the plant of S. B. Penick & Co., drug manufacturers at Weehawken. Eighty men and twenty women employed at the plant were forced to flee, when a mysterious explosion rocked the plant at 2:15 p.m., on September 15.

Police were swamped with requests for information regarding individuals and an appeal was made through the radio for all workers to report to police headquarters.

It was not until four hours later that the fire was considered under control. Smoke could be seen from many skyscrapers in the midtown district of New York City. Metal drums said to contain gasoline and ether, exploded periodically during the progress of the fire.

Fire also spread to two adjoining tenements, the occupants of which were forced to flee. A block away, the roof of a public school was ignited. While there are several theories regarding the cause of the fire, nothing definite is known.



Two Views of the Destruction of the Drug Plant

Upper, a view of the building, after the explosion, and during the progress of the fire. Lower, an aerial view of the plant during the fire.

Some Notable "Firsts" in the Fire Service

A Chronicle of the Important Developments in Equipment and Personnel of Fire Departments Over a Period of Twenty Centuries

THE first piece of fire apparatus or appliance for extinguishing fires other than buckets, which have existed from almost the dawn of civilization, mentioned in history is a hand operated engine invented in Alexandria, Egypt, 150 B. C.

The next apparatus mentioned is a large syringe in Augsburg, Germany, in 1568. The first use of syringes in London was in 1633. At the time of the great conflagration there in 1666 the only apparatus there was large syringes on two wheels.

In ancient Rome there were companies of firemen known as Matricula. They had no apparatus or appliances other than buckets, ladders, etc. There were similar companies in provincial towns in Italy at that time. They were the first fire companies and departments in the world and were similar to those of the present time. There was great rivalry between the old Roman companies, which caused disturbances and rows such as frequently occurred between old London companies and have occurred between volunteer and hand engine companies of the United States almost to the present time.

There were small crude pumps, conveyed to fires by hand and operated by five or six men, in German cities as early as 1615.

Early Hand Engines

The first patent for a fire engine was granted to Thomas Grant, of London, in 1632; the second to John Vander Hayden, of Amsterdam, in 1663, which were the first of the gooseneck pattern of hand engines. Engines of this type were introduced in London in 1688. They were one of the results of the London conflagration of 1666, which caused the beginning of better appliances and conditions for the extinguishment of fires everywhere.

The first of the successful gooseneck patterns of hand engine was invented and made by Richard Newsham, a pearl button maker of London, in 1721. The first fire engines in America were made by Newsham. The oldest hand engine now in the United States was made by Newsham in 1689. It was in service in England until 1763, when it was brought to Bethlehem, Pa., where it was in service many years. It is now at the Moravian College in Bethlehem, kept as a relic, a most valuable one.

The oldest fire engine made by Newsham especially for an American

Hand Syringe, One of the Earliest Types of Fire Extinguishers

town, Salem, Mass., in 1748, is now in the Essex Institute at Salem.

The oldest engine made in the United States now in existence is now at Ashland, Pa., where it was long in service; made in 1749.

Greencastle, Pa., has an old engine imported in 1741.

Newsham was the first prominent builder of fire engines. His engines went to all countries. His successor, Merryweather, made them and steam fire engines for many years.

The first fire engine made in the United States was built by Anthony Nichols, of Philadelphia, in 1732; the next by John and Thomas Hill, of Boston, in 1733, and William Lindsay, of New York, in 1737. The first double deck hand engine was made by William Mason in Philadelphia in 1768. None of them was the equal of the Newsham engines, many of which were later imported by cities of this country.

In 1792 W. C. Hanneman, of Boston, commenced the manufacture of hand engines and he and his descendants made them and, later, steam fire engines continuously for 91 years, their hand engines going to many countries. Hanneman was to this country what Newsham was to England. More Hanneman hand engines were made than of any other pattern, many of which are still in existence.

The most important invention in hand fire engines, after that of Newsham, were suction engines in 1822, which completely revolutionized the fire service everywhere.

The "Gooseneck" Engine Arrives

The gooseneck engine was so named from a long gooseneck shaped play pipe on top of the gallery through which water was played onto the fire. There was no hose or suction then. The engines were stationed as close to the fire as possible. Inside fire fighting was impossible and the building was usually wholly destroyed, unless it was a roof or outside fire.

Gooseneck engines were supplied with water by lines of bucket passers from the nearest water supply, one line passing them full to the engine, the other line passing them back, when emptied, to be refilled. The water was emptied into the box of engines then called "Tub" and all hand engines since then have been called "tubs." The engine pumped the water through its gooseneck pipe onto the fire.

At that time all dwelling houses were compelled by law to possess two buckets for fire purposes to be hung in a conspicuous place, usually the front entry, which were to be taken to fires and used in bucket lines. After the fire, the buckets were thrown into a pile where their own-

ers obtained and returned them to their usual place. The names of their owners were painted on them. Those old buckets are now valuable as relics. Women often were in bucket lines.

Bed keys were also compulsory, to take down and save from fires old time beds.

The First Hose

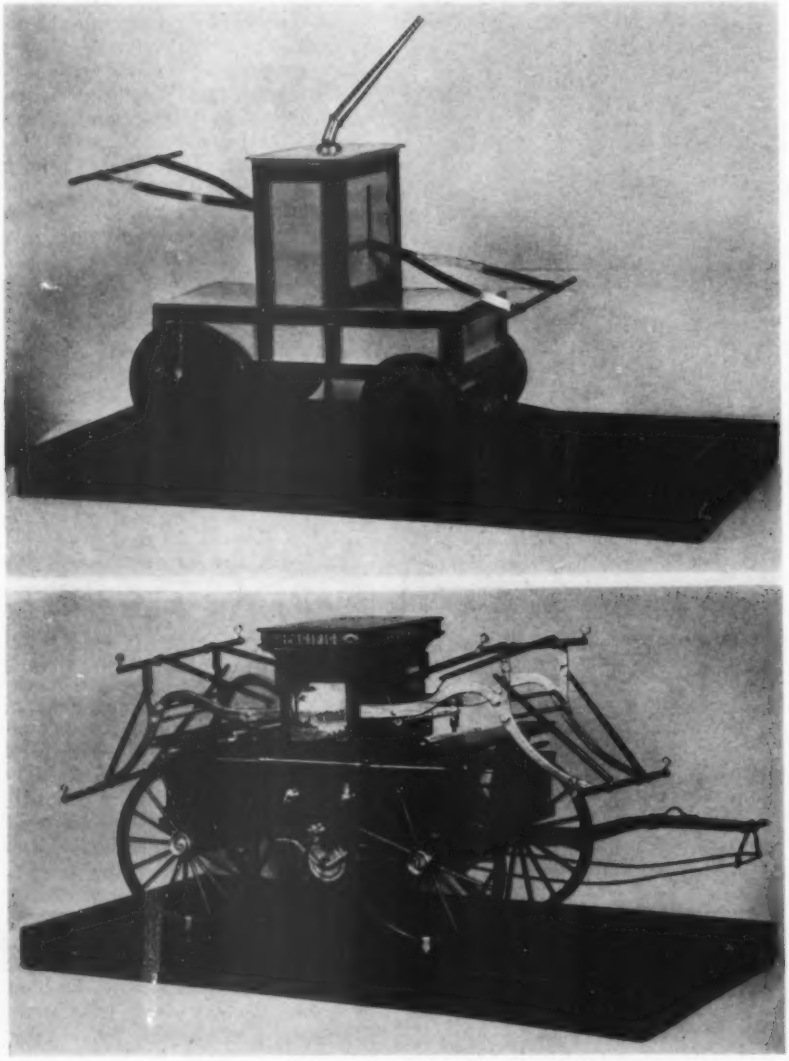
The first successful hose came in 1811, invented by Pennock & Sellers, of Philadelphia. With the adoption of hose, gooseneck engines passed out of service. The engines were stationed nearer to the water supply when hose came, but buckets were still necessary to supply the tub with water.

When suction engines came in 1822, the use of buckets to fill engines ceased.

Suction engines were invented by Pennock & Sellers, of Philadelphia, who invented the first successful hose. The first suction engine they made was the "Hydraulion" of Providence, R. I., completed in 1822, which was one of the wonders of that time. Fire and other city and town officials went to that city to see it and its operation. Newspapers pronounced it one of the greatest inventions of that time. Only suction engines were made after it came into existence and many non-suction engines were changed to suction.

With suction engines came the most romantic era in the history of the fire service and of volunteer firemen, which ended when steam fire engines and paid firemen came thirty years later.

More than forty concerns made fire engines. Many of their engines are now in existence.



Early Types of Hand Engines Used in the United States

The first double deck hand engines, which were the most used in the larger cities, were made by William Mason, of Philadelphia, in 1708.

Some of the hand engines of volunteer companies were of costly construction. Many hundreds of dollars were paid by companies for ornaments, silver plating, paintings of fire scenes, portraits, etc., on engines.

One of the most famous of hand engines was the double deck machine back of which John Brown and his men defended themselves at Harpers Ferry, Va., just before capture by soldiers in command of General R. E. Lee, in 1859. During the war it was taken by the Confederate army to Fayetteville, S. C., where it was in service some years and finally demolished for junk without its identity being then known. The alarm bell on the Harpers Ferry fire station is now owned by the G. A. R. at Marlboro, Mass., and hangs on the front of their headquarters there.

Boston Had First Fire Company

The first fire company in the United States was organized at Boston, January 27, 1678, which under different names and numbers has been in existence to the present time. It is now engine Company No. 7. The first company consisted of 12 men, of which Thomas Atkins was foreman. He was the first fire service official in this country. Boston engines were first known by name only. This one was known as "Old North," because it was located in the North End of the city.

Philadelphia was the second to have a fire company in 1718, followed by New York in 1731; Newburyport, Mass., in 1733; Salem, Mass., in 1748; Providence, R. I., in 1754; Bethlehem, Pa., in 1763; Baltimore, in 1769; New Bedford, Mass., in 1772, and many others soon afterwards. Benjamin Franklin organized his famous fire company in Philadelphia, the Union, December 17, 1736. Some of these cities did not have an engine until some years later.

New York in 1658 had a night patrol of 18 men, whose duty it was to watch for and extinguish fires with buckets, ladders, etc. The purpose of the first companies was wholly to extinguish fires. They had no social features, which came after suction engine arrived and existed until full paid firemen succeeded volunteers.

With suction engines came a change in methods. Hand engines usually carried about 300 feet of hose on the hose cart or "jumper" as it was called. Frequently this would not reach the fire from the water sup-

ply. There were few water systems in those days in the large cities. To reach the fire, engines would play through open butt into one another, known as "line playing." Sometimes there would be several engines in line. Each would endeavor to supply the engine it was playing into with more water than it could pump through an open gate from its tub, passing the surplus water over its sides. This was known as a "wash." To pass all it was receiving and suck air known as a "suck." These contests resulted in many challenge contests, which later resulted in musters.

The best engines did not always win in line-playing contests at fires. Sometimes they would be caught short handed and defeated by an inferior engine. The public took a great interest in these contests and prominent citizens would often aid their local engine on its brakes in them. The fire was never neglected for them. They were of benefit to the service and they helped materially to man engines. They also helped to keep the companies up to their full quota of men.

There were few social and fraternal organizations in hand engine times. The companies were the principal organizations of many towns. The position of foreman of an engine company was one of honor, which many endeavored to possess. Many prominent men in political and business history were commanders of fire companies in the days of volunteer firemen and hand engines, and got their start to fame as firemen.

Invention of Steam Fire Engine

The first steam fire engine was invented by George Braithwaite, a famous hydraulic engineer of London in 1829. He was assisted by Captain John Ericsson, of the iron clad naval boat Monitor of Civil War fame. It was named Novelty, weighed 12½ tons, 10 horsepower and passed 250 gallons of water a minute. It was a failure. Its great weight was against it and insurance people opposed it for the fire service. In 1832 Braithwaite constructed another for the Prussian Government to protect Berlin which was more of, but not entirely, a success.

The next steam fire engine was invented and made by Paul R. Hodge, of New York, also an Englishman and an eminent engineer in 1841. It was made at the suggestion of insurance companies who had become alarmed by the frequency of large fires in New York at that time. It was not a success and ended its existence as a successful stationary engine in a factory. It was 13½ feet long, weighed nearly eight tons, was a self propeller of the locomotive pattern, the running wheels used as balance wheels when pumping. An exhibition and trial at the City Hall, March 27, 1841, created much public interest. It threw a magnificent perpendicular stream. Volunteer firemen opposed it, but a volunteer hose company operated it in service a few months. Its great weight was its principal defect. It was also too cumbersome for fire service purposes.

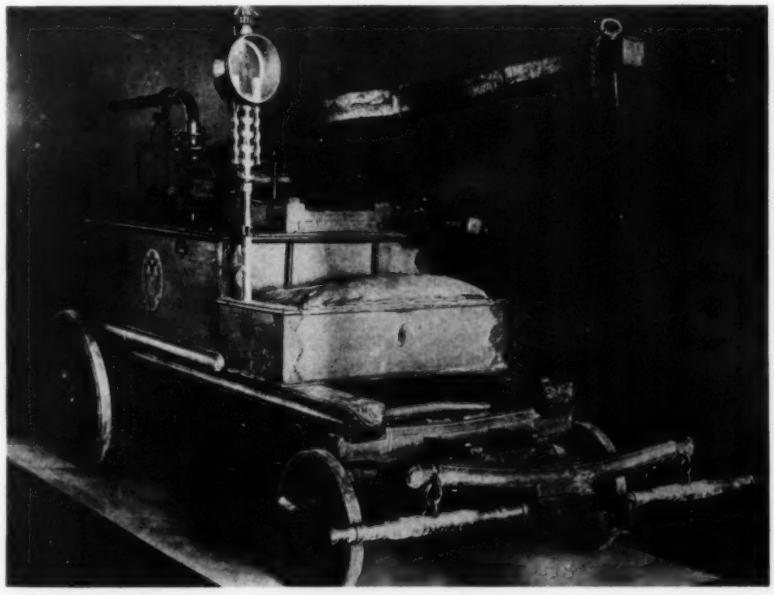
Captain John Ericsson, who came to New York in 1839, designed a steam fire engine in 1840, in response to an offer of a gold medal offered by the Mechanics Institute for the best design for one. Three were offered; that of Ericsson received the medal, but no engine was ever made from any of the plans submitted.

In 1851, William L. Lay, of Philadelphia, designed an engine to be run by either steam or gas. Efforts to interest capital in its construction failed. None was ever made.

The next one was the first successful steam fire engine in history, the "Uncle Joe Ross" of Cincinnati in 1852. Deplorable conditions in the volunteer Fire Department of that city at that time forced it into existence.

The Cincinnati Fire Department in 1852 consisted of 15 hand engines and one ladder company, with a membership of 1,500 men and boys, all volunteers. It was operated by an association of delegates from each company, which owned their own apparatus and equipment. The city had but little control or influence in department affairs.

The department had fallen into bad repute. Fights were frequent between companies. Sunday was a day for many alarms and fights. At the fire stations an equally bad condition of affairs existed. Debauchery and all kinds of vice, it was claimed, was of common occurrence in most of them. The public was much dissatisfied with existing conditions, but it was powerless to change them, as the engines had to be manned and none but the element then in the department would become firemen. It was either fires or existing conditions, and between the two evils the least of them was selected. What was abhored was tolerated because it had to be.



One of the First Hand Engines Built. Invented by Hochhausen in the 1600's. Now in Municipal Museum in Vienna

Miles Greenwood, proprietor of a large iron foundry, one of the principal industries of the city, who had been a volunteer firemen and officer of the department and for several years President of the firemen's association which controlled the department, saw a remedy for existing evils in steam instead of muscle to operate fire engines. It would greatly reduce the number of men necessary to operate engine, and men could be better selected and the lesser number better governed than the large number required to operate the hand engines.

Mr. Greenwood went to Alexander Latta, of the firm of A. B. & E. Latta, general machinery builders. He was induced to design a steam fire engine. Chief R. G. Bray of the volunteer

department approved of Mr. Greenwoods' plans. Mr. Latta constructed a crude model which in a test early in 1852 worked satisfactorily.

The City Council at once appropriated $10,000 for the construction of an engine, which was commenced March 1 and completed and given a public trial December 29, 1853. It was a complete success. It was named "Uncle Joe Ross" in honor of the alderman who introduced the order for its purchase.

It cost $7,925, weighed over 13 tons, one of the heaviest fire engines in service ever made, was 22 feet long, 8 feet high, with a smoke stack 8 feet high. It was a self propeller of the locomotive pattern. Horses were used to draw it until sufficient steam could be raised to propel it and to steer it. It went into service January 1, 1854, and rendered excellent service until December 6, 1855, when it was demolished by an explosion due to its boiler being improperly stayed, killing its engineer.

An Early American "Gooseneck" Hand Engine

After organizing a company to operate it, there came another test which would determine its success in service. The volunteer firemen threatened to "kill it" at its first fire, which occurred one Sunday afternoon. The engine was then stationed in Greenwood's foundry. Four horses were attached to it, but no one would drive it, fearing injury, if not death, by the volunteer firemen. A teamster from Vermont, who was visiting the city, in passing the Greenwoods foundry where his brother worked, saw the crowd there, ascertained the cause and volunteered to drive the engine, which he did from the back of a wheel horse, with Greenwood leading the way to clear the street. It reached the fire, in a large house on the canal, safely. It put two excellent streams on the fire.

A large crowd had assembled, expecting to see the volunteer firemen carry out their threat to wreck the engine. They attempted to do so, but the crowd rallied to the defense of the engine and saved it. The volunteer firemen, seeing that the public was against them and in favor of steam, abandoned their opposition to steam and never again opposed the introduction of the steam fire engine.

The success of the "Uncle Joe Ross" was so complete that citizens raised by subscription and donations from insurance companies a fund to purchase another, which was named "Citizens' Gift." It went into service July 17, 1854. The entire department was equipped with steam fire engines in a few years.

Boston was the second city to possess a steam fire engine, February 24, 1855. It was made by Latta at Cincinnati, and was named "Miles Greenwood" in honor of the father of steam fire engines. In reply to the Boston committee, that went to Cincinnati to purchase the engine, as to what were the principal merits of steam fire engines, Miles Greenwood characteristically replied, "First, it never gets drunk, second it never throws brickbats, and its only drawback is it cannot vote."

Enroute to Boston the engine was exhibited and trials of it made in Washington, Baltimore, Philadelphia and New York. Its New York trial before a large assembly of people and firemen at City Hall, February 9, 1855, was the most important. The largest and most powerful hand engine in the department, known as the "Hay Wagon" contested with it and won horizontal playing, which brought forth prolonged cheers from the crowd and volunteer firemen, who were in sympathy with the hand engine. Steam defeated muscle when playing perpendicularly. Endurance of the steam engine and the amount of water passed convinced many that steam was best for operating fire engines.

The Boston engine, owing principally to its great weight and to the opposition of hand engine firemen, was not a success. It was never in service at a fire and was probably the only successful fire engine either hand or steam ever made that did no fire duty. Its only work was on the ruins of three large fires where it was in service for long periods.

But it convinced Boston that steam was superior to man operated fire engines and that city was the first to entirely change its engines from hand to steam, retiring its last hand engine from service September 17, 1860.

The success of the Cincinnati engines induced the New York City Council in 1854 to instruct the Chief of its volunteer Fire Department to report on the expediency of substituting steam fire engines for hand engines. He reported in favor of steam and suggested that a premium be offered for the most approved design for their construction, but none was ever offered. In 1856 the Council made an appropriation for one, which was made in that city and named it "J. C. Carey," in honor of its inventor. It was a success and first used at a fire November 5, 1858. It was a self propeller of locomotive pattern.

(To be continued)

Ex-Chief Matthews, Orange, Dead

William H. Matthews, who retired as Chief of the Orange, N. J., and who was later Chief of the Greystone State Park Fire Department, died at his home in Orange at the age of eighty-one.

He joined the Orange department as driver in 1878, and in 1906 was elected Chief. Chief Matthews retired in 1922, because of the compulsory retirement age law. In 1912, he was commended by the late Thomas A. Edison for his work at the fire in the Edison plant in East Orange.

When he retired, he became Chief at Greystone State Park, an institution for the insane. He served there for nine years, fought two fires there and when he left, he was presented with a gold badge.

Chief Matthews was a member of the Board of Managers of the New Jersey Firemen's Home at Boonton, N. J., and of the State Firemen's Relief.

What Is A Fire Fan?

By ROBERT GREENOCK

Robert Greenock

WHAT is a fire-fan?

Some people collect stamps or coins, some build model airplanes or trains, some snap everything in sight with candid cameras and others are fire-fans. Why? I don't know and I guess they don't either.

I'm a fire-fan.

I started at the very tender age of four when I ran to the scene of a burning bungalow three blocks from home in San Francisco, thereby causing my mother's hair to turn grey, to say nothing about the way the seat of my trousers sizzled when she caught up with me.

The tanning I got didn't discourage me. At the age of ten I was the pest of the engine-house nearby, asking questions until my firemen friends, I fear, were tempted to chase me home. Even at that age, though, I wasn't a bad sort of fire-fan. I knew better than to touch the shiny brass poles or the apparatus. I knew enough to keep out of the way. But I asked so many questions about the bells and telegraph key, the location of companies and a million other things that interested me that the firemen probably considered me the scourge of the district.

The men on a certain truck (hook-and-ladder) company were great humorists. It took me two weeks of the hardest kind of work to win the privilege of riding the running board. I did everything from asking the firemen in the basement for a bucket of steam for the captain to running from the joker-stand down through the basement and up the back stairs in full equipment including bunkers, St. Joe coat, helmet, belt axe and pikepole. I was timed and after each dash a consultation of the men lounging in the front of the house always resulted in the unanimous decision that I was too slow. Finally, I passed the "test" and from that day on, I was a "member."

But what is a fire-fan?

A fire-fan is any red-blooded individual with a mania for being on the scene of every first-class fire. Something inside him flares up at the sound of a siren. He has an overwhelming impulse to run in the direction the engines are racing. He is possessed of a peculiar sixth sense, which enables him to reach the scene of the blaze by the time the first lengths of hose are taken off the pumpers.

The fire-fan is not to be confused with the "curbstone chiefs" who turn out en masse for each fire to do nothing but offer advice. Real fire-fans are not kibitzers or second-guessers. They have nothing but respect for the departmental Chief and his men. They know how and when to help and when to keep out of the way. The real fire-fan is heartily liked by the firemen. He is their best friend.

Who are fire-fans?

Fire-fans are a band of romantic adventurers who steal away from prosaic jobs to revel for a few hours in the glamorous uncertainty of battle with man's oldest enemy. Architects, manufacturers, brokers, bankers, doctors, lawyers, salesmen, teachers and even priests—all crafts and creeds are numbered in the ranks of the fire-fans.

Where are fire-fans?

They live next door to you, above you, all around you. It makes no difference whether you live in San Francisco, New York, Squeedunk or South Bend. Fire-fans are there. There is something of the same thrill in pulling the hose reel up Main Street in Podunk that there is in dragging a high-pressure line in De-

REDAGOGY VS FIRE FIGHTING ? I MUCH PREFER THE LATTER !
MY BANK IS PROUD OF OUR BOX 12 ASS'N.
FIVE IN OUR PARISH ARE BUFFS ! I RANK CHIEF.
I'D LEAVE A PATIENT FOR A FIRE ANY DAY !

troit. Eating smoke in Oskaloosa brings the same kick as heeling a ladder in Chicago. Set a fire-fan down in Greenland and let an Eskimo in his igloo overturn a whale oil lamp and then watch your fire-fan come charging across the ice with a hatfull of snow.

When are fire-fans?

Whenever sirens howl and bells clang, whenever flames crackle and smoke rolls, then fire-fans come out of hiding. They appear as though by magic. There is something primitive about the fire-fan. He thrives on the roar of flames, the smell of smoke. He thrills at the robust heroism of the firemen. He marvels at the shrewd tactics of the company commanders, the generalship of the Chief. He loves to be an actor in a mighty fight, to stand shoulder to rubber-coated shoulder with the pipemen and truckmen.

Next day, he may drudge at a humdrum job, but his first spare moment will find him down at the fire house where he fans, hashing and rehashing the latest fire with all the zest of the old war vets in the Soldiers Home reliving Gettysburg or the Argonne.

Lone Wolf or Gregarious

A fire-fan may be a lone wolf or he may run with a pack. In the last few years the packs, known as "box clubs," have become increasingly popular. These box clubs add an air of respectability (in the eyes of the wives, mothers and sisters of the fans) which assists the fire-fan in preserving a perfect record in matter of attendance at "good" fires.

While a man may find it a bit difficult to enumerate his reasons for being a fire-fan to his skeptical, soberminded friends, he finds it increasingly difficult to explain to his practical-minded wife just why it is necessary to frost his fingers and return home several hours late with the smell of a smokehouse and several inches of ice on his overcoat. His friends may regard him as slightly demented and a poor insurance risk, but how can he argue with his wife?

She tells him it wasn't his fire. The building belonged to Smith. Smith has plenty of money. He probably owns two overcoats and doesn't even go to fires. Then, there were men who get paid for putting out fires. Besides, it was a waste of time. The furnace needs cleaning and the kitchen could stand some paint. And why a man will suddenly leave a housefull of guests to race away into the sleety night just to see a fire is beyond her comprehension.

Sure it's hard to explain. And it's hard to get the overcoat to look (or smell) the same after dirty water, washing down the dust of ages from between the rafters together with bits of plaster and hot embers have made repairs next to impossible.

Ignorant scoffers contend that a fan is a pyromaniac. Firemen know better. As the fire-bug is their worst enemy, so the fire-fan is their best friend. A fire-fan is primarily interested in seeing blazes stopped.

Speaking of Sportsmanship

When 90,000 supposedly sane and normal humans sit in he rain or snow cheering the muddy efforts of twenty-two men with an inflated pigskin, when 100,000 others crowd into an arena to watch two leather-fisted financiers exchange punches and when another 85,000 incoherents beg a spindly-legged but fat athlete to "kiss the old apple—give it a ride"—that's sport!

But when another group of citizens go in for a game that makes football look like kiss-the-pillow, a game that takes every fiber of nerve, every ounce of strength, a game that requires strategy and the staunchest heart, a game in which the stakes are millions of dollars and thousands of lives annually—that's eccentricity! Well, the fire-fan is willing to be listed among the "nuts" just so long as he can sit around the engine house awaiting the call to duty, just so long as he can have an old coat and a pair of bunkers nearby.

A Fire Fan Talks

Listen to Robert C. Anderson, Vice-President of the Buckeye Iron and Brass Works in Dayton, Ohio, and Chief of the Box Seven Association of that city which is one of the "box clubs" previously mentioned:

"The critical public forgets that there were fans before there were Fire Departments. No doubt, while Nero fiddled, there was a stout company of Roman volunteers in dripping togas, standing up to their waists in the Tiber, filling buckets for the Imperial fire brigade. Pliny mentions the fire-fans of Ancient Rome. Apollodorus, architect to the Emperor Trojan, describes the fire-fans of ancient times running with bagpipe-like instruments full of water.

"Hero of Alexandria refers to the siphons used in conflagrations and the hearty volunteers who manned them. It was a body of fire-fans under General Phil Sheridan who finally conquered the Chicago fire more than a half century ago. New York's 'buffs' are the lineal descendants of those hardy burghers who rolled themselves in buffalo robes and slept over the engine house on winter nights in order to be on hand for emergencies. These elder volunteers were facetiously called 'buffaloes' by other burghers, who considered ninepins better sport and the contraction of the name clings to this day."

Few persons realize that some of our large cities in the eastern part of the United States receive all their fire protection through fire-fans in the guise of volunteers. Harrisburg, Pa., with a population of 85,000 is protected by 3,000 fire-fans. The only paid members of the department are the Chief, the Assistant Chief and the drivers of the apparatus. The Mayor is a lowly hoseman when the fire-bells sound. Bank presidents climb ladders and swing axes with salesmen and janitors. Not only are they volunteers, but these fire-fans actually pay for the privilege of fighting fires. It costs a dollar a year to belong and fines are heavy if one should not report for duty at a fire in his district. The odd part of it all is that there are several thousand more on the waiting list, begging for a chance to become a glorified fire-fan, a volunteer!

In many cities, fans have been appointed as Fire Commissioners. Some years ago, when the Mayor of Detroit was looking for a Fire Commissioner he chose a fire-fan, a man of such integrity that even the opposition newspapers hadn't the heart to criticize the appointment. That man was C. Hayward Murphy, a businessman. For many years Murphy has been a fan, simple, hearty and a hose-lugging one, at that.

One of the organizers of the "Box 12 Associates" in Detroit, Murphy not only gave freely of his own money for departmental activities, but he put on a helmet and boots and went on the job with the rest of the boys whenever there was a tough fire to fight.

When "Big Bill" Thompson, the king-baiting Mayor of Chicago, wanted a first-class Fire Commissioner a few years back, whom did he choose? Albert W. Goodrich was his name, and they say he started his fire-fan activities at the tender age of nine months, when he began creeping to fires. As the years progressed, so did Mr. Goodrich, and he was getting to fires in short order when "Big Bill" appointed him.

With all his fire-fan experience behind him, Goodrich knew what he wanted to do and did it. Consequently, he accomplished much during his tenure. He modernized stations and equipment. When he took office there were only thirty-seven truck companies covering Chicago. Now there are fifty-two. It wasn't that the companies hadn't been needed for many years. It was just the fact that a fire-fan stepped in and did the things where other Commissioners had

contented themselves with playing politics.

Speaking about doing something, they tell a story about Goodrich visiting the downtown fire alarm office late one night, which was nothing unusual, for the Commissioner was always popping in at unexpected times. He was conversing with one of the operators when a still alarm was received by 'phone from the far northwest side of the city. Without hesitation, the operator stepped to the bank of telegraph keys on the dispatcher's table, called the company nearest the fire and had them on their way in a matter of seconds. It was a sparsely settled section of the city that the call came from, and the engine sent, No. 125, was about two miles away.

Nine minutes later a box struck. After it had been relayed through the alarm office, Goodrich, proudly displaying his fire-fan knowledge, said:

"That's 125's box!"

"Naw," came the retort from the operator, "that *would* be their box if they were in there to pull it, but they ain't there yet!"

Goodrich was nearly overcome. He sputtered, stuttered, grew red. Nine minutes and a company less than two miles away wasn't in yet? Impossible! But two minutes later the captain of No. 125 called the alarm office to ask for help, not knowing that some citizen had run two or three blocks to pull the box and that help already was on the way. That clinched the argument. But why did it take so long for that company to get in there?

The operator explained that No. 125 was equipped with a Smith pumper which was very fine as far as pumping ability went, but as far as speed was concerned, a ten-ton gravel truck could probably waltz rings around it. The Commissioner stomped out of the office.

Check on Commissioner

Next morning before the operator went off duty at nine o'clock, he was summoned to the 'phone.

"This is Commissioner Goodrich. You told me last night that No. 125 has a Smith pumper. You're a liar. They've got a Jones." And he hung up. A check-up revealed that the Commissioner had called the Fire Department shops at eight o'clock that morning and ordered the much speedier Jones pumper sent to No. 125's quarters.

Needless to say, firemen appreciate such a Commissioner rather than one of the all too prevalent type that would rather attend teas in full dress than a 4-11 in a rubber coat and helmet.

Fire-fans have organized into associations in various cities. In Boston they call themselves the "Box 52 Associates." The fifty-two members meet formally once a month.

Fire-Fan Passengers

Informally, they hop the tailboard of whatever rig rolls out of the quarters they frequent. They have been organized for more than twenty years. They carry department badges, always refraining from abusing any privileges they receive through them. Several of the members have private alarms in their homes and by a system of relay calls all are notified of all multiple alarm fires.

One member recently stated that he had responded to an average of 190 alarms a year and that he has foregone the pleasure of a residence in the more exclusive suburbs because it would not only deprive him of his alarm bell, but that it would take him too long to "get in" on fires in the high value districts.

In many cities the fire-fans have contributed coffee wagons, which turn out for the large fires. Sometimes a fireman is detailed to operate the wagon; more often the fans themselves operate it.

Paxton Mendelssohn, one of Detroit's leading business men and a charter member of the Box 12 Associates in Detroit, presented the local department with a combination ambulance and coffee wagon. The combination responds to all multiple alarm fires and is so completely equipped that a surgeon could, if necessary, perform operations of an emergency nature at the scene of the fire. The rig cost Paxton in the neighborhood of $15,000, but what does that mean to a fire-fan of twenty-five years' service?

Ambulances are often given by public-spirited citizens and the white-jacketed doctors aboard them are, more often than not, donating their services as members of the local fire-fans' club. In New York there are honorary department surgeons who keep their siren-and-bell equipped cars ready for instant service. When the gongs in their homes strike, they're really "gone with the wind," for they turn out with the alacrity of ambitious recruits.

Addiction to fire-fanning is difficult to break. Smoke, like hard liquor, gets into a man's system. How many times has the habitual fire-fan sworn he's through, usually after an engine cracks up or a wall falls on some of his pals? For a week he stays away determinedly from engine houses. In a spirit of martyrdom he throws out the alarm bell that has kept his family awake for years, the bell that has awakened him to joyous battle many a zero night. He mournfully puts aside his helmet and boots. Say what you will, he's through. He must think of his family, and suppose that wall hadn't missed him? And at his age, there's his heart to consider.

Then when temptation is strongest,

GEE WIZ ! YOU'D DEPRIVE A MAN OF ALL THERE IS IN LIFE WORTH WHILE !
WHO'S GOING TO PAY FOR ALL THE CLOTHES YOU RUIN ? THOSE MEN ARE PAID ! YOU AINT !

he hears his home company push out. Something in the tone of the siren stirs his blood mightily. Bells in the distance jangle his nerves. Must be a box alarm, at least. He opens that window, sniffs. He imagines a red glare in the sky. He'll just walk down to the engine house to see if there really is something doing; he was going out for cigars anyway.

You know what happens. Hours later, he sneaks up the stairs to his bedroom, smelling of smoke, clothes soaked, eyebrows singed, knuckles barked, but with a song in his heart.

"Well," he whispers, "we beat it. The first companies in couldn't hold it and had to call for help. They finally pulled a fourth on it and you

should have seen the gang knock it when they once got set. Guess I'll go down to the engine house tonight."

The fire-fan is not geographically-minded. Away from home, the first place he heads for after he arrives in town is the fire house. He examines the apparatus, visits fire alarm headquarters, inquires about the platoon system, the pay, and discusses the merits of various types of engines. He argues the advisability of three-inch hose on the first lead-out and the trend to siamese connections. Do they have a water tower, are heavy streams necessary and do they fight their fires from the street?

The skipper may take charge of him, or the Chief may show him around. Maybe he's asked to have supper. He might even bunk in the house or perhaps he stands the watches with the men. Firemen are the same hard-fisted, fine knights of the helmet and axe the country over and they greet the fan with open arms knowing that he loves the game even as they do.

One of the finest fire-fan organizations in the country is the Box 12 Associates in Detroit, of which Paxton Mendelssohn is Chief and C. Hayward Murphy, First Deputy Chief. They were elected to office back in 1926, when Box 12 was first organized and have tried many times to resign in favor of someone else. However, the other members have refused to hold an election and so Mendelssohn and Murphy go on, year after year, heading a real fire-fan's organization.

The workings of Box 12 are interesting. Let Paxton himself explain a few of the rules and regulations:

"No one can apply for membership. One does not come in to Box 12 either through financial or social position. One's clubs and home life do not enter into the qualifications. As long as a man is a gentleman and a sincere fire-fan, the size of his bank account or the home he lives in matters little. Therefore, while we have several millionaires in our club, we have men of all types and professions and we have some very humble souls, who work on salaries for a living, but when once accepted as a member of Box 12, they are all on equal footing. Only first name salutations are allowed.

"The only way one can attain membership in our organization is as follows: An active or resident honorary member is permitted to invite a guest for the purpose of inspection without the guest's knowledge of that purpose. At a subsequent meeting, he is possibly proposed for membership and if there are no more than two negative votes, he may and can be elected at the following meeting.

"The new member is then called on the 'phone and informed his presence is desired at the meeting. It makes no difference what time of the night it is. When he arrives, unaware of the purpose of the call, he is subjected to an initiation which is humorous, but not damaging.

"One feature of Box 12 is that each member is presented with a regular leather fire helmet as his badge of membership. This is never used in public or at fires. The meetings are devoted to sociability, where good fellows with the same inclinations are given a chance to get together.

"It is part of our code of ethics that we must always boost and never unfairly criticize our Fire and Police Departments. We take no position whatsoever in politics or promotions, merely attempting to be good fellows on friendly terms with the officers of these two departments. No paid member either in or out of uniform in the Police or Fire Departments can be an active member for obvious reasons, but some are taken in as honorary members."

Box 12 has neither charter, by-laws or any regulations other than those written in the minute book, which contains a complete record of the organization even if written in facetious manner. When first founded, Box 12 members met monthly at one another's homes, with the host defraying the expenses.

"But that idea soon proved impracticable," says Mr. Mendelssohn, "because, as I stated before, we have humble as well as wealthy souls. It got to the point where only the wealthier members could afford entertainment and it became embarrassing to the members with lesser means, whose homes and pocketbooks were not equal to the occasion. Therefore, we soon started holding our meetings in private dining rooms in a local hotel whose manager is a charter member of our organization and a former Fire Commissioner, and we continued meeting in that manner until about two years ago."

At that time, Paxton and his wife, after talking it over, decided to dispense with having their chauffeur live on the premises and completely refurnished the five-room apartment over their garage as a club for the use of Box 12. Since that time the quarters have become known as the home of "Rescue Company 12." Paxton's household staff does the catering and each members pays $1.50 to defray expenses at each of the meetings. That sum is assessed only when the member actually attends and is used to pay for the food and beverages. There is no initiation or other charge excepting the $5 annual dues.

Other Box Associations

Of course, there are many other box associations, run on less pretentious scales. All have been founded on the same principles. Other fans, belonging to no formal organization, meet informally in groups by design or chance in their "home" firehouse. While there may be no formal unit, there is always an air of understanding, a feeling of fellowship among true fire-fans that excludes the "curbstone chiefs" and the curiosity seekers. A would-be fan, seeking to fraternize with the already accepted fans in a particular engine house, must prove himself before he is generally accepted as one of the "gang."

Acceptance may be signified in one of several ways. The firemen may invite him to supper or to bunk all night, one of the fans may offer a lift to the 4-11 or he may be called at home by a fan or member of the company when something—a 4-11 maybe—happens. On the other hand, let the prospect get too gabby or nosey and he's soon cold-shouldered out.

Fans have peculiarities. One fan in Chicago wouldn't walk across the street to see a five-alarm fire. He liked to sit listening to the joker and watching the ticker tape, meanwhile figuring out what companies should be moved by the alarm office to fill in here and there. When the office moved a company he hadn't counted on, out would come maps, locations of companies, index cards, etc., to show that he was right and they were wrong. On rare occasions he would admit that their moves were better than his.

He was a smart fan, too. A doctor, he knew the approximate location of every fire box in Chicago, the Fire Department code, and many details that only an observant fan can pick up. Some of the firemen on Truck 16 (his home company) used to run off fake 5-11's on the ticker tape while "Doc" was out on a call. Then they'd give him a big "build-up" about the raging fire when he did show his face in quarters. But invariably he smelled the rat. Jumping into his car, he would drive over to the quarters of Engine 63, less than a mile away, to check their ticker tape. They soon gave up trying to fool "Doc."

Other fans, who wouldn't miss a big fire under ordinary circumstances, will gladly remain in their "home" quarters when they know that a strange company from another part of town is going to fill in while the home company responds to the fire. They remain for the explicit purpose of showing the fill-in company the district and aiding in any other way possible.

How Fans Aid the Firemen

During the great stockyards conflagration of May, 1934, fire-fans proved their mettle in Chicago. With more than a hundred of the 118 pumpers in service at the fire, many fans forsook the fiery spectacle to "go in service" in their home district. It naturally took the already overburdened fire alarm office some time to organize skeleton companies comprised of off-shift firemen and pumpers from the shops. Most of the apparatus was in the shops for repairs or painting and had to be loaded with hose and other equipment.

In the meantime, a number of fire-fans got small delivery trucks, backed them into engine houses and loaded them with all the spare hose and equipment available. They then reported to the fire alarm office what they had done and informed the operators that they would make every attempt to hold any fire in check, until the nearest engine company, perhaps five miles away, could get there.

Fans "Move In" to Vacated Houses

Other fans, backed up by the thirty-odd pumpers that small towns and villages near Chicago supplied, filled in the all too-vacant quarters. They not only backed them up by directing them to the many small fires these volunteers (they really were volunteers in many cases) battled, but they actually dragged hose, lugged hand-pumps and pike poles and swung axes. And they were glad to do it. Those fans stuck on the job until there were regular firemen to take care of any emergency. Maybe they missed the big blaze in the "yards," but they had the satisfaction of knowing they had done their duties as citizens and real fire-fans.

Other Ways in Which They Help

Every day, fire-fans all over the country aid the Fire Departments. Many times the extra help of the fan in heeling a ladder on icy pavement or dragging hose for long stretches has meant the saving of human lives, to say nothing about the saving in dollars and cents. A fan or two may mean the difference between a still alarm and a box or multiple alarm. By doing helpful little things at a fire, firemen are freed for other duties which may save calls for more men and apparatus.

Help Called by Fan

For example, a certain truck company moved into another's quarters during a 5-11 in a large city. One of the regular fans rode along. They had no sooner reported for duty to the alarm office when they were given a "still" to a location a few blocks away. The fire was in an office-apartment building and was going good when the truck and engine got there. In fact, it was going so good that the windows blew out with a "whoosh" as they pulled up. People on upper floors were hanging out windows, screaming for help and threatening to jump. It was obvious that lifesaving had to be done and in a hurry. It was also evident that one truck and one engine company would never extinguish that fire.

With only five men and an officer on each of the two companies, it was hardly the thing to do to send a man to the nearest box or 'phone to get additional companies when people were crying for help and with lines needed on the fire. Hastily looking around, the captain of the truck yelled to the fan to get help.

Knowing the nearest box to be several blocks distant, the fan ran to the drugstore at the corner, called the fire alarm office on the 'phone and explained the situation. Then he ran back and heeled ladders while firemen carried women and children to safety. No one lost his life and with the additional help summoned by the fan, the fire was soon out.

Insurance Patrol Assisted

Another fan once helped an insurance patrol company protect furnishings in a large apartment building by lugging covers to the patrolmen, who were at a disadvantage because of their six mile run on the box alarm following a "still." Due to his efforts, a greater amount of valuables were saved from water damage than would have been ordinarily possible. The captain of that patrol never forgot that fan and always has time for a friendly word whenever they meet.

And so, while you've been reading this, fire-fans all over the country have been chasing the big red wagons or are waiting for the chase to begin. Why? I don't know, except that some people collect stamps, or coins, some build model airplanes or trains, some snap everything in sight with candid cameras and others are fire-fans.

And I'd rather be a fire-fan.

Ladies' Entertainment at I.A.F.C. Convention

An extensive program for the entertainment of the ladies attending the convention of the International Association of Fire Chiefs, at Oklahoma City on October 19-22, has been arranged by the local committee. The program follows:

Tuesday, October 19

2:00 p.m.—Bridge party and tea, Biltmore Hotel.
6:30 p.m. to 7:30 p.m.—Dutch lunch at Main Auditorium.
8:00 p.m. to 11 p.m.—Entertainment: Stage drill by Kiltie Girls; stage performance by Boy Scout Whip Team; stage performance and dance by Native Oklahoma Indians.

Wednesday, October 20

10:30 a.m.—Shopping tour for ladies.
3:00 p.m.—Educational tour of the oil field by motor transportation.
5:30 p.m.—Barbecue at State Fair Grounds.
6:30 p.m.—Wild gas well on fire in front of the Grandstand. Oil fire in front of the Grandstand.
7:00 p.m.—Return to Convention Headquarters.
8:00 p.m.—Theater Party.

Thursday, October 21

12:30 p.m.—Luncheon and style show, modeled by O C F D Ladies at Ormands Cafe.
6:30 p.m.—Civic banquet and Ball, Biltmore Hotel.

The Ladies Entertainment Committee includes the following: Mrs. Geo. B. Goff, Chairman; Mrs. Geo. R. McAlpine, Mrs. Geo. G. Leech; Mrs. Geo. F. Ross, Mrs. J. P. Carter, Mrs. L. Chenoweth, Mrs. Elmer Davis and Mrs. A. H. Paine.

West Virginia Firemen Meet

Chief G. E. Mosser of Thomas, W. Va., was elected President of the West Virginia Firemen's Association at the annual convention held at Thomas, September 10 to 11. The other officers are W. G. McCauley, attorney of Moorefield, First Vice-President; John D. Brehaney, Ridgeley, Second Vice-President; H. G. Fridinger, Martinsburg, Secretary and W. W. Long, Keyser, Treasurer. Martinsburg won the prize for parade appearance.

International Fire Tournament for World's Fair in New York

Plans Being Formulated for Worldwide Fire Protection Congress and Tournament; to be an Outstanding Feature of the World's Fair to be Held in New York in 1939

AT a meeting, on September 29, of the Committee on International Tournament and World Fire Protection Conference, to be a feature of the World's Fair in New York City in 1939, plans were disclosed for what will probably constitute the greatest fire show ever held.

While these plans are still in the formulative stage, they call for evolution contests between paid and between volunteer fire companies from all states of the union, with the final contest, in which foreign Fire Departments also will participate, being held during October, 1939. If the International Association of Fire Chiefs select New York for their 1939 meeting, the final contest will be held during the Convention.

To aid Fire Departments which wish to participate, it is planned to to set forth standard evolutions under which fire companies may drill. In this manner they may make themselves proficient in those competitive drills which will be used in the tournament.

Specifications for equipment to be used will also be included, but they will permit sufficient latitude to enable most departments to employ their own equipment.

As present plans call for one volunteer and one paid company from each state to participate in the tournament, and as there will likely be a number from each state that would like to participate, it has been suggested that local and state tournaments be held to select the two companies (one volunteer and one paid) to represent each state at the International tournament.

The local tournaments might be held in ball parks or other fenced in lots where the public would be required to pay admission. Such an arrangement would provide traveling expenses for the fire companies and might even net a little additional revenue for those companies or departments participating.

It is further planned that suitable prizes will be awarded to the winning companies.

The New York Fire Department, in connection with the New York City exhibit, plans to put on a demonstration twice a week. This activity, in connection with the proposed International tournament, will give fire protection a very prominent part in the World's Fair.

It is also felt that nationwide participation in elimination tournaments and, finally, in the tournaments at the Fair will focus public attention on the fire service on a scale never before attained. Material improvement in the fire protection of the nation should be a logical result of the proposed program.

The Committee on International Tournament and World Fire Protection Congress includes the following:

John J. McElligott, Fire Chief and Commissioner, New York City, Chairman.

Fred Shepperd, Editor, FIRE ENGINEERING, and Headquarters Manager, International Assn. of Fire Chiefs, New York City, Vice-Chairman.

William F. Conran, President, The Conran Standpipe Company, New York City.

Dr. Harry M. Archer, Honorary Surgeon, N. Y. Fire Department, New York City.

Richard F. Warner, Secretary, New York Fire Department, New York City.

George W. Booth, Chief Engineer, National Board of Fire Underwriters (representing W. E. Mallalieu, Gen. Mgr., National Bd. of Fire Underwriters), New York City.

George Morley, Fire Alarm Engineer, New York City.

Charles Green, Secretary, New York World's Fair, Inc., New York City.

Correspondence

Use of Study Material

To the Editor:

We are interested in the monthly questions and answers that appear in the FIRE ENGINEERING each month. We give the men the questions that appear this month and when they get their shift together for school they discuss the questions. If they cannot come exactly to an agreement on the answer, they take a vote as to which is the correct answer.

And when the next issue of FIRE ENGINEERING comes out with the answer to previous questions, the papers are graded as to the answer you give.

We have seven companies which provides for two shifts of men. Each officer of each shift holds this examination each month. We find the questions and answers very interesting for the men.

Do you think this to be an efficient and correct way to handle the series of questions and answers of this type? Here are the grades since April, 1937, by each shift:

	Monthly Grades						Average for 6 Months
	March	April	May	June	July	August	
No. 1 Station.....	89.7	72.7	92	76	86	81.5	83
	83	80.5	86	87	92.2	81.5	85
No. 2 Station.....	86.4	72.7	80	92.2	93.1	87.9	85.4
	91	64.9	90	85.2	90.2	85.2	84.4
No. 3 Station.....	83.5	74.7	84	81.5	87.3	70.4	80.2
	90	80.5	76	85.2	90.2	85.2	84.5
No. 4 Station.....	85.5	76.6	84	85.2	91.2	92.6	85.9
	85.5	86.4	92	81.5	86.3	81.5	85.5
No. 5 Station.....	74.7	57.1	72	92.6	81.4	100	79.6
	67.7	70.8	74	90.8	88.2	84.2	79.4
No. 6 Station.....	78.5	86.4	96	88.9	89.2	88.9	88
	82.7	64.9	88	92.6	95.1	88.9	85.4
No. 7 Station.....	84.4	70.8	94	85.2	87.3	81.5	83.9
	74.4	61.5	78	88.9	68.8	81.5	75.5

L. B. MEERS,
Chief, Fire Dept., Waco, Tex.

EDITOR'S NOTE: Chief Meers has devised a plan which should prove particularly effective in stimulating a live interest among the men in improving their knowledge of fire department work. He is to be commended upon his ingenuity.

* * *

Direct Connected Turret Pipes

To the Editor:

In your August issue of FIRE ENGINEERING, on page 395, in your Question and Answer Department, I notice an article referring to the turret pipes used on New York pumping engines, and in the answer it was stated that the connection is known as a "Spencer" connection, named for Deputy Chief Spencer in charge of the Borough of Richmond.

I want to call to your attention the fact that this type of turret pipe was used quite a few years before New York City adopted it.

Back about 1922, the Seagrave Company delivered several pumping engines to Oklahoma City and, unless I am badly mistaken, this direct connected turret pipe originated with Chief George Goff of that city.

Incidentally, these old pumpers are still in service and I suppose can be seen during the Fire Chiefs' Convention.

I might further add that not so many years back, Chief Goff purchased a couple of aerial trucks, upon which he had pumps mounted in the tractors and these also were equipped with direct connected turret pipes.

Very truly yours,

S. L.

* * *

Overloaded Fire Trucks

To the Editor:

I just read your editorial in the September issue of FIRE ENGINEERING relative large booster tank, and I would like to make the following comments:

It has been our experience that the large capacity booster tank, or I might say the extra capacity booster tank, is generally specified in the small towns where they purchase the lightest type equipment.

It is very rare for us to furnish a water tank larger than 100 gallons capacity on a 1,000 gallon pumper.

On the other hand, we have all sorts of requests for large capacity booster tanks on small 500 gallon jobs. In fact, it isn't at all unusual to find a prospect in the market for a commercial truck pumper in the class of Ford or Chevrolet requesting us to install a 300 gallon water tank.

These small truck chasses are, as you know, generally rated at 1½ and sometimes two tons capacity.

The average purchaser has no conception whatever of the weight of a gallon of water, and when you tell them that water weighs 8 1/3 pounds to the gallon most of them seem to be very much surprised.

Your editorial, where you state that a 200 gallon tank, when filled, is approximately a one ton load is certainly right to the point.

In addition to this 200 gallon tank let's put a thousand feet of hose on the job, which will weigh some place in the neighborhood of 1,000 pounds, depending largely on the quality of hose. In addition to this load of hose we put a reel and 150 feet of booster hose. We generally have to furnish a couple of ladders, two sections and sometimes three or more of hard suction hose, the pumping unit itself and, in addition to all of this, any place from five to fifteen firemen. The result of all of this is that the job is so badly overloaded before it ever goes out the door of the engine house that good service can't be expected.

There is just one thing that I want to refute in your editorial, and that is that where unusually large water tanks are supplied we generally try to mount them lengthwise of the frame and extending from the seat clear back.

As we view this situation it isn't anything for the manufacturer to clear up, it is really a proposition of educating Fire Department Officials in just what should be expected of a piece of fire apparatus.

One serious difficulty that we encounter is the small assembler or the commercial truck dealer who works in conjunction with an assembler, and where their knowledge of fire-fighting service is extremely limited. These fellows, when soliciting business, never say halt or attempt to show the purchaser what is right and proper for his service. They merely agree with him and tell him he can have anything he wants, built in any manner that he suggests.

When the legitimate manufacturer comes along and attempts to tell them that they are buying something that is not correct for service he generally is received in the wrong spirit. They tell us in no uncertain terms that they can get it from someone else just the way they want it, etc., etc. In many instances we have refused to sell certain types of apparatus by reason of the fact that they specifically stated and we weren't able to talk them out of purchasing a light machine with an extremely large water tank.

Incidentally, I might add that we have many, many machines, particularly machines in rural communities, where they are equipped with water tanks not in excess of 200 gallons capacity and the people who use them tell us that 200 gallons of water is sufficient for this work. In other words, if a 200 gallon booster tank doesn't do the job they are going to have to put the heavy artillery on it anyhow, and if no heavy artillery is available, the fire is lost.

Another thing about the departments that have these 200 gallon tanks is that before the capacity of the tank has been completely exhausted, they generally are in a position to refill the tank with buckets from wherever the water supply is available.

With the smaller capacity tank and lighter loads, it has been found that the apparatus generally responds to the fire much quicker than does an overloaded and unwieldy, small horsepower truck, which generally gives more or less unsatisfactory service.

Very truly yours,
THE SEAGRAVE CORPORATION.
Columbus, Ohio, September 16, 1937.

Fire Prevention Group Meets

Members of the Massachusetts Fire Prevention Association attended a meeting and luncheon in fire headquarters at Danvers on September 27 and then adjourned to go to Somerville to witness a demonstration of the new 100-foot aerial ladder truck of the Somerville Fire Department.

Captain Joseph McCarthy, Weymouth, presided at the meeting, assisted by Secretary Albert C. Maxwell, Reading. The speakers included Deputy Chief Arthur Miller, Malden; Chief Joseph Kelley, Danvers; Chief William C. Mahoney, Peabody; Lieutenant Theodore Munroe, Haverhill; and State Fire Inspector George O. Mansfield.

The October meeting will be held at the plant of the Associated Factory Mutual Fire Insurance Companies and the November meeting at the Boston Edison Company.

HARRY BELKNAP.

INTRODUCING OUR CORRESPONDENTS

HARRY BELKNAP

ROI B. WOOLEY

WM. PAUL BABCOCK

WM. E. PATTERSON

LARRY DONOVAN

WM. JEROME DALY

D. G. SPENCER

JOHN KARL LEE

"ART" ESPEY

On this page are pictured some of the live-wire correspondents of FIRE ENGINEERING, and whose contributions have gone far towards keeping the fire service posted in news in the districts they represent.

Those included in the group are:

Harry Belknap, Boston, Mass., New England correspondent.
Roi B. Woolley, Assistant Chief, Larchmont, N. Y., Editor of "The Watch Deck."
W. Paul Babcock, Nyack, N. Y., Editor of "The Cover."
William E. Patterson, Secretary of Fire Dept., Pittsburgh, Pa., Pittsburgh and vicinity correspondent.
Larry Donovan, Lt. of Fire Dept., Urbana, Ohio, Indiana and Ohio correspondent.
Wm. Jerome (Jerry) Daly, New York City corespondent.
D. G. Spencer, Charlotte, N. C., North & South Carolina and Georgia correspondent.
John Karl Lee, Toronto, Ont., Ontario correspondent.
"Art" Espey, Elmira, N. Y., cartoonist.
"Tom" Magner, Lt. of Fire Dept., Bridgeport, Ct., Connecticut correspondent.

THOMAS F. MAGNER

Fire School to Be Held at Aberdeen, S. Da.

A Fire School, commencing on October 3, and continuing for 14 days, is being held at Aberdeen, S. D.

The school will be divided into forenoon and afternoon sessions. The forenoon will be taken up with work at the drill tower, covering: practical hose layouts, size of hose and nozzles required, placement of pumps, operation of pumps and care of motor, engine pressures required for different layouts, turret and deluge layouts, operation of booster and hand water pumps, operation, care, method of recharging of soda-acid, foam, carbon tetrachloride and carbon dioxide extinguisher, ladder practice and ladder drill and care and use of hand tools.

The afternoon classes will cover first aid, artificial respiration, use and care of smoke masks, inhalator, tannospray, salvage covers, life line and net, hose roller and ropes. Round table discussions on fire inspection, fire regulations, prevention, reducing fire losses and allied subjects. There will also be a question box.

The school will be carried out under the supervision of the officers and men of the Aberdeen Fire Department.

Chiefs' Club Opens New Season

A general discussion of subjects of interest to fire officials including civil service, Underwriters' labeled hose, higher salaries, the eight hour day, and storage of TNT featured the first fall meeting of the Fire Chiefs' Club of Massachusetts, which was held in the Parker House in Boston on September 22.

President William C. Mahoney, of Peabody, directed the proceedings and invited a number of ex-Chiefs to come to the head table for the luncheon which preceeded the meeting. Seated with the President and Secretary William H. Hill were Ex-Chief Daniel F. Sennott, of Boston; Ex-Chief Walter Skelton, of Burlington; Ex-Chief Jeremiah F. Sullivan, of Fall River; Ex-Chief William A. Berry, of Danvers; and Ex-Chief Edward F. Saunders, of Lowell.

Chief Daniel B. Tierney, of Arlington, read a lengthy letter from A. R. Small, President of the Underwriters' Laboratories in Chicago. Among those who took part in discussion were Chief Herbert C. Root, Springfield; Chief Ray D. Wells, Falmouth; Chief Thomas H. Slaman, Wellesley; Chief Harold Conron, North Reading; Chief Selden R. Allen, Brookline; Chief George L. Johnson, Waltham; Chief David A. DeCourcy, Winchester; Percy Bugbee, of the National Fire Protection Association; John Scully, president of the American Fire Equipment Company; and Justin A. McCarthy, of the Justin McCarthy Company.

Chief Edward R. Brenann, Jr., of Natick; Chief Robert G. Breck, of Longmeadow; and Fire Commissioner John F. Cusick, of Fall River, were elected active members of the club; and Charles T. Smith, Sales Engineer of the Gamewell Company, was elected an associate member.

The following committees have been appointed by President Mahoney: Topic Committee: Chief Daniel B. Tierney, Arlington, Chairman; Chief John W. O'Hearn, Watertown; Chief Selden R. Allen, Brookline; Chief Homer Marchant, Gloucester; and Chief Frank Dickinson, Brockton. Legislative Committee: Chief George L. Johnson, Waltham, Chairman; Chief Herman E. Gutheim, Cambridge; Chief Thomas McCarrick, Revere; Chief James J. Evans, Everett; and Chief Thomas H. Slaman, Wellesely.

Chief Mahoney has mailed the following letter to all members of the club:

Dear Sir:

The objects of the Fire Chiefs' Club may be summed up as follows:

1—To bring the Chiefs of Fire Departments of the various communities throughout the state into relations of mutual assistance and cooperation.
2—To aid in the establishment of a fraternal feeling among chiefs.
3—To create a deeper sense of the interests it represents.
4—To increase the efficiency of fire fighting as a public service to our individual communities and the Commonwealth.

In an effort to have our meetings during the coming year well represented I am asking that you do your proportionate share toward the advancement of a goodly gathering at stated intervals. In order that these meetings will be instructive as well as social, prominent speakers have been contacted.

I will be extremely pleased to receive suggestions from the various Chiefs regarding any matter which may prove a benefit to our Club. No matter how trivial the subject may seem, would you please bring it to the attention of the Club?

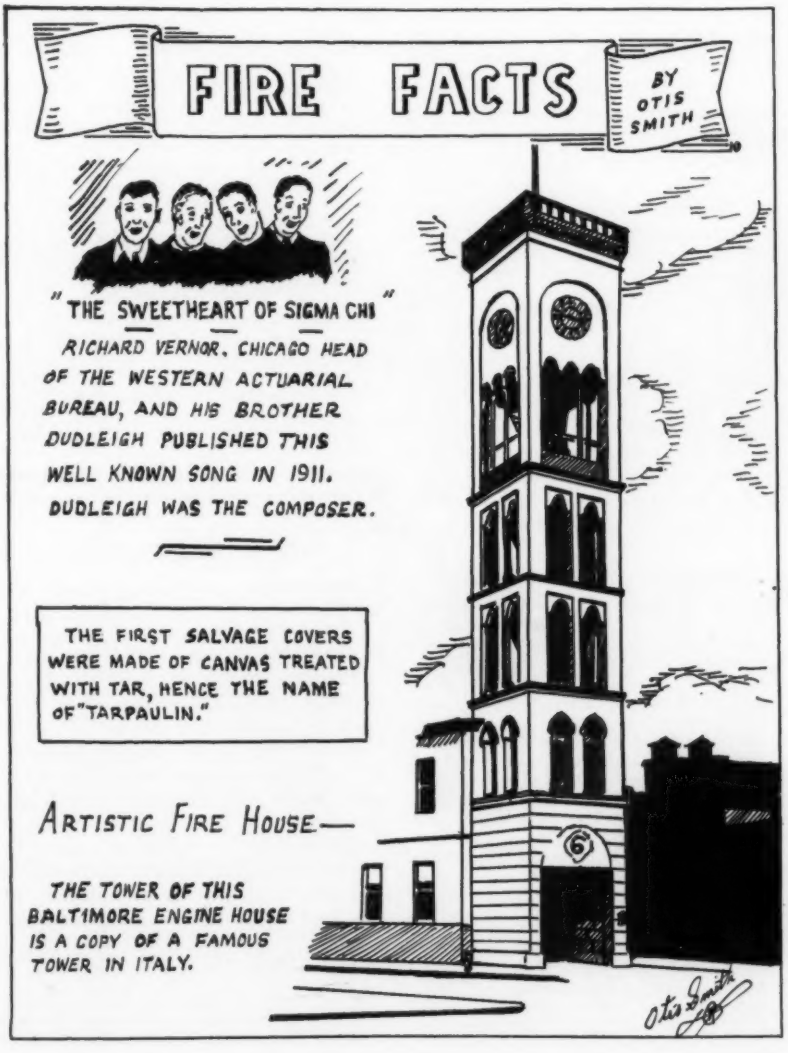
I trust that the coming year your presence will attest your individual interest in an organization where we shall find—good fellows—well met. I know that you will find plenty of interest for yourself and furthermore that each meeting attended will be well spent.

Fraternally yours,
WILLIAM C. MAHONEY,
President.

Baltimore Fights 4-Alarm Blaze

Four alarms were sounded when fire threatened to sweep a three-story apartment house in Baltimore the morning of September 7. Eleven occupants of the building were forced to flee. Fire started in drug store supplies in the basement and was discovered by a passerby at 1 a.m.

On the arrival of the first companies, they found the basement to be a mass of flames, with fire spreading to adjoining buildings and the first floor. Three more alarms were pulled. It was an hour and a half later before the fire was declared out. Fifteen companies and much special equipment rolled on the four alarms. These included No. 2 Flood Light, No. 2 Fuel Wagon and two ambulances. OTIS SMITH.


FIRE FACTS
BY OTIS SMITH
"THE SWEETHEART OF SIGMA CHI"
RICHARD VERNOR, CHICAGO HEAD OF THE WESTERN ACTUARIAL BUREAU, AND HIS BROTHER DUDLEIGH PUBLISHED THIS WELL KNOWN SONG IN 1911. DUDLEIGH WAS THE COMPOSER.
THE FIRST SALVAGE COVERS WERE MADE OF CANVAS TREATED WITH TAR, HENCE THE NAME OF "TARPAULIN."
ARTISTIC FIRE HOUSE—
THE TOWER OF THIS BALTIMORE ENGINE HOUSE IS A COPY OF A FAMOUS TOWER IN ITALY.
Otis Smith

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

RESPONSE TO TELEPHONED FIRE ALARMS

TO the customary "Hello" of the operator, an excited person relates that he has a fire, that he wants the firemen in a hurry, that his place is burning, and that help must be rushed right away.

Operators are used to such incidents. They have been taught what to do in case a fire is to be reported.

Telephoning the Fire Department for aid is not an unusual practice. Records in many cities show that despite the fair distribution of fire alarm boxes, the telephone is the most used method of reporting fires.

To safeguard against errors that might be made by excited persons, a number of precautions are taken, such as requiring the names of the nearest intersecting streets, or having the party hang up so that that telephone could be called and the location of the caller verified.

A suggestion has been made to the fire service that a machine similar to the dictating device be used for recording telephone alarms as they are received.

The question in full that is treated in this discussion appears in the box on this page. Due to the many replies that were received, it will be concluded in the next issue.

Discussion of the Question

Earl A. Traeger, Chief, Minneapolis, Minn.: Approximately 86 per cent of our alarms are received by telephone. Telephoned alarms are recorded the same as box alarms on the Fire Signal Operators work sheet, journal and shift report, and two rounds are sent on the nearest box over joker system.

Our method of verifying is to repeat location of fire to person giving same. We also ask for information as to what is burning, kind of building and apparent location of fire in building. We find that this method somewhat verifies such alarms and holds mistaken locations to a minimum.

We have never to my knowledge received any complaints of the department failing to get location of fire correctly over the phone; however, this is controversial and difficult to establish.

We have, however, had occasions of mistaken or wrong locations in the transmission of telephone alarms of fire between our fire alarm office and stations affected. About a year ago, to eliminate such occurrences and to definitely establish responsibility for wrong locations as between signal operators giving locations of telephone alarms and their reception at stations, and to provide a further check on such locations as received by the man on watch, we established the following system:

Upon receipt of telephone alarms of fires at the fire alarm office, the signal operator transmits such alarms to stations by giving six rings on the telephone circuit of the group or groups affected. He then gives the location of the fire and the number of the nearest street box to such location. This is repeated three times. The man on watch checks the location of the fire with the location of the street box. If this check indicates a mistake he keeps the receiver off the hook and the signal operator will immediately check with him. Response is made by companies so indicated on first alarm to the box given. Two rounds of the box is then sent out on the joker circuit of the group or groups affected, but not over the gong circuit, which establishes the differential between a telephone and box alarm.

On box alarms three rounds are sent out over both joker and gong circuits. Stations not responding on the group or groups affected enter the time, location and box as received in the station journal thereby establishing a check as to how the alarm was given from the fire alarm board. This system has been quite successful to date.

Certainly there is need in the fire service for methods that will entirely eliminate the receipt of incorrect locations of fires. The safeguarding of human lives is associated with every alarm of fire.

As to whether machines similar to commercial dictating machines will solve the problem or not, I am not prepared to express an opinion. However, if such a method can be developed it will prove of immense value to the fire service.

N. A. Phelan, Chief, Pittsburgh, Pa.: Our yearly average for alarms received over the telephone is 51 per cent. A still or telephone alarm is entered into the fire alarm record book under date, with time alarm as received, the location of the fire (street and house number) with the company or companies assigned to said alarm; and the record is completed from the report of responding companies upon their return.

The Fire Bureau has used a very effective method for several years in verifying telephone alarms by having the Fire Alarm operator, after dispatching proper companies to the location of fire, call the nearest telephone (ascertained by telephone street directory) and verify the location and extent of the fire.

There are very few complaints from the Fire Bureau as to failure in getting location of fires over the telephone; where complaints are made is when there are streets with similar-sounding names.

Basing my opinion solely upon the prevailing system in handling telephone alarms by the Fire Bureau, I see no necessity for automatically recording the alarms as received. The most important factor in handling a still alarm is for the operator to question the person telephoning and thus ascertain the definite location of the fire. Under circumstances accompanying a fire, the party telephoning is naturally excited, and often locations and numbers are not clearly given, thus requiring such procedure as indicated above to clearly determine the location of the fire. Automatically recording machines for telephone alarms would undoubtedly serve as a protection to operators against any

HERE IS THE PROBLEM

About what percentage of alarms do you receive over the telephone?

What procedure do you employ in recording telephoned fire alarms?

Have you found any effective method of verifying them? If so, how is it done?

Have you had any complaints of the Fire Department failing to get location of fire correctly over the telephone?

Do you believe there is need for some method of accurately recording telephone alarms automatically as they are received (i.e., on machines similar to commercial dictating machines)?

The INDIAN FIRE PUMP CARRIES

HIGH ON THE BACK *Like* THE ARMY PACK

NO RUBBING OR CHAFING HIPS!

The soldier marches for hours without undue fatigue even though his pack weighs over 50 pounds. Why? Because it is scientifically arranged so the carrying weight comes high on the shoulders, not at the small of the back. Nothing flaps against the hips or rump causing soreness. THE INDIAN FIRE PUMP, curved in shape, carries on exactly the same principle.

MAY BE CARRIED WITHOUT FATIGUE OR DISCOMFORT

IN fire fighting, just as in long marches, it is often necessary to carry the outfit for hours. The carrier may find himself called from place to place as need appears. Sometimes he must run—sometimes walk. But the INDIAN does not become burdensome or uncomfortable. THE CARRYING WEIGHT IS HIGH ON THE SHOULDERS—*where it should be.*

INDIAN FIRE PUMPS combine every desirable feature for a portable, clear water extinguisher. Strong brass carrying handle for carrying the outfit by hand. The pump is firmly held in this handle when not in use. Water may be kept in tank continually insuring readiness for fire at any time. May be carried filled on trucks or in cars. No need of propping to fill, tank stands alone strong and rigid. Heavy solid brass bottom prevents rusting and corrosion. Cannot rot or mildew.

FEATURES of the INDIAN

COMBINATION BRASS NOZZLE FOR 50-FOOT STREAM OR A LONG COARSE SPRAY. NOZZLES CHAINED TO PUMP AND CANNOT BECOME LOST
HEAVY BRASS, QUICK OPENING WATER TIGHT FILLER CAP WITH REMOVABLE BRASS STRAINER. CAP HAS PIGGIE CHAIN TO PREVENT LOSING.
COMBINATION BRASS HANDLE FOR CARRYING TANK AND FOR HOLDING PUMP
EXTRA HEAVY TANK HAS SOLID BRASS BOTTOM. ALL JOINTS LOCKED AND SOLDERED. BUILT STRONG.

PATENTED

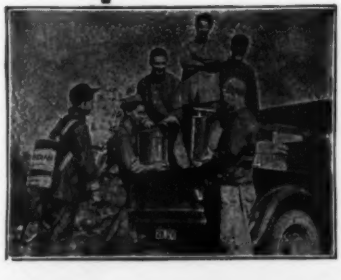
FORM-FITTING, VENTILATED TANK GIVES A CONSTANT CIRCULATION OF AIR BETWEEN TANK AND CARRIER'S BACK. IT PROTECTS THE BACK FROM THE COLD WATER AND MOISTURE IN THE TANK AND KEEPS THE BACK WARM AND DRY. THE FORM-FITTING SHAPE OF THIS TANK FITS THE BACK PERFECTLY. SNUG AND FIRM AND FEELS GOOD.

VENTILATED TANK

Form fitting, ventilated tank allows a continuous circulation of air between carrier's back and water tank. This prevents moistness or dampness reaching the back which remains always dry and comfortable. Fire chiefs and others consider this a most important feature.

CCC CAMPS USE INDIANS

The fact that CCC camps use hundreds of INDIAN FIRE PUMPS indicates they are all they should be. Photo at right shows CCC enrollees unloading INDIANS to fight a large forest fire near camp. Officials are high in their praise of the performance of these fire fighters.



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ATTACK FIRE WITH HOSE THAT . . . . CAN FIGHT

★ For strength, durability and every highly developed fighting quality—specify Republic Fire Hose. It won't fail against high pressures or hard wear—won't stretch or warp in use. You will find it flexible, easy to handle and easy to coil for storage—always ready to go into action with the sound of the gong.

Republic Fire Hose is Provar Processed (without extra charge) to protect it against the ravages of mildew. Provar is our exclusive treatment for that purpose, the most effective ever used—and permanent. It not only means highest dependability, but cuts your hose costs.

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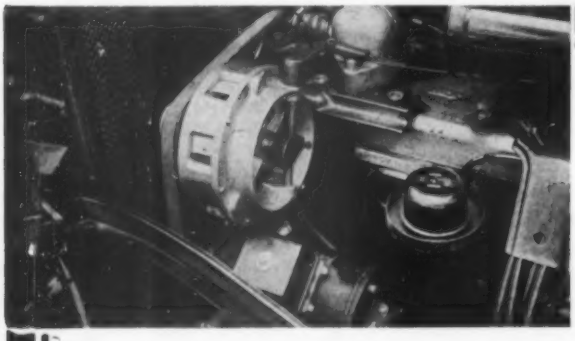

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MECHANICAL
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A SOUND INVESTMENT!

As loud and effective as any siren can be, these new H O R Mechanical Sirens are a real buy!

They are mounted directly on motor block in a rigid position, requiring no swinging motion to be operated. They are directly connected to the fan belt similar to the generator and fan of car. This automatically eliminates wear and tear as they do not need to be swung against belt when they are blown.

New York City Police Department has bought 541 of these better sirens since 1935. Get yours today.

Write for catalog. Dealers Wanted.

- *An INSTANT FULL BLAST at Your Finger Tips*
- *DOESN'T USE BATTERY Drives Off Fan Belt*
- *NOT AFFECTED by WEATHER*
- *GREATEST SOUND at HIGH SPEED*

H. O. R. CO., 10 BROAD STREET, STAPLETON, STATEN ISLAND, N. Y.

error, and a similar recording machine for operators transmitting alarms to engine houses would serve to protect the Fire Bureau, if the benefit derived warrants the expense incurred.

James McAllister, Chief, McKeesport, Pa.: We receive approximately eighty per cent of our alarms of fire by telephone. We have only the manual system of recording telephone alarms.

I have found no effective method for verifying them. I have had several complaints in regard to the department failing to receive the correct location of a fire. Sometimes it may be the fault of the man on watch, and again it may have been the person sending in the alarm who was at fault.

I do believe that there is need for recording alarms and I am including in my next appropriation, a sum for purchasing such equipment.

William Freeh, Chief, South Bend, Ind.: Of the total number of alarms received, telephone alarms predominate all other forms of transmission. A conservative figure would be approximately eighty per cent.

Although the system in which we operate is the time worn verbal system namely; citizen-sender to alarm operator to fireman on watch, we have been most successful in our interpretation of these alarms and complaints of the Fire Department failing to reach their objective, due entirely to misunderstanding, have been negligible.

A method of recording telephone alarms automatically will be of vital importance to the Fire Department in its effort to reach its ultimate goal of perfection.

J. N. Sullivan, Chief, Utica, N. Y.: About 60 per cent of all fire alarms are received by telephone. The recording of telephone fire alarms is the same as for box alarms, with the exception that the telephone designation is given instead of the box number.

There is no satisfactory method for verifying telephone alarms under the dial system without the loss of valuable time. During a recent epidemic of false telephone alarms our telephone operators asked for the number from which the party was calling and requested them to hang up their receivers while they called back for verification. In the meantime a single piece of apparatus responded to the alarm.

There have been occasions when fire locations have been received incorrectly by telephone. Our operators are required to keep the calling party on the line, if possible, until they are absolutely sure that they understand correctly the fire location.

I believe that an automatic record by a dictating machine would be of value or the telephone alarms might be switched to a loud speaking amplifier.

O. F. Romann, Chief, Cleveland Heights, Ohio: One hundred per cent of alarms are received over the telephone.

All calls are entered in a book by the man on watch at the time they are received. Later on tehy are recorded in a card index. When a person calls the Fire Department by number or by just saying, "Fire," the operator records the number and address from which the call is made. If the person calling gives the wrong address, it can be checked immediately with the telephone company records, as they are permanent.

THE DISCUSSION WILL BE CONTINUED

Due to the many replies that were received to this discussion, the material has been divided into two sections, and the concluding part will appear in the next issue.

We have had few complaints of the Fire Department failing to get the location of fire correctly over the telephone. This is usually caused by excitement of the party making the call.

A machine to accurately record telephone alarms automatically is not needed in this particular community, as the number of fires recorded are very small, namely about 550 per year of which are included calls for inhalators, grass fires, and false alarms.

Wm. A. Sheridan, Acting Chief Operator, Bureau of Fire Alarm Telegraph, Chicago, Ill.: Approximately 87 per cent of alarms are received over the telephone. As soon as a telephone call is received, the nearest company is dispatched to the fire. A record, of the time, location of he fire, and the companies dispatched there, is then made on forms provided for that purpose. When the operator receives the call, he repeats the location of the fire to the party calling to be certain that he received the proper location.

On several occasions when the telephone lines were not in proper working order, due to atmospheric conditions, there have been a few complaints about receiving the location of the fire.

I do not believe an automatic method of recording the telephone calls would be necessary. This would entail a large expenditure of money and would not speed up the receiving of the call. The safest way is to have the operator repeat the location to the party calling.

Edward W. Gieselman, Chief, Syracuse, N. Y.: Approximately 68 to 70 per cent of the alarms of fire in Syracuse, N. Y., are received by telephone. The telephone alarms are received direct by the Fire Alarm Telegraph of the Bureau of Fire. Formerly the New York Telephone Company operators accepted the alarms and relayed them to the Fire Alarm office. This latter arrangement never proved as satisfactory as the system now in use.

The person telephoning the alarm is connected with the Fire Alarm office. The operator at that point asks the nature of the fire, the street address and the name of the nearest intersecting street. By obtaining the street address together with the intersecting street, the possibility of error in receiving and transmitting alarms, is virtually eliminated.

The instances in which there have been mistakes in receipt or transmission of alarms, received by telephone, in the past have been few and far between. While I have no information as to the existence of any system or method of automatically recording telephone alarms, I do believe that the need for some such device does exist.

M. P. Leonard, Chief, Erie, Pa.: About 60 per cent of our alarms are recorded over the telephone. Telephone calls are recorded as telephone still or telephone box, if a box is struck out, together with the location, companies responding, fire loss, officer in charge, etc. The telephone company has arranged a special number for fire calls, in our case 171, and it cannot be used other than for fire. By calling 171, the operator at switchboard asks do you want to report a fire? If not, the person is required to call another number. Complaints are negligible, as the operator repeats back to the caller to verify the location and nature of fire.

The recording of telephone alarms on a dictating machine would eliminate to a large extent errors now charged to the department, due to erroneous directions given the operator by excitable and nervous persons. check.

The recording would serve as a double check.

Samuel J. Pope, Chief, Boston, Mass.: In 1936, of the total alarms received and transmitted, about 46 per cent were received by telephone. This is a fair average for recent years. A record is made on printed form, recording time, location, telephone number of person calling, assignments and time of return to quarters, notifications to public service corporations, etc. This record is afterwards copied into a book for permanent record. A daily report is made by the fire alarm division to headquarters.

Occasionally a mistake is made in obtaining the correct address due to duplication of street names; names that sound alike over the telephone, wrong numbers, etc. We believe in educating the public to use the fire alarm box in preference to the telephone. The percentage of mistakes being small, we believe that the expense of purchasing automatic recording devices is not warranted.

E. A. McHugh, Chief, Louisville, Ky.: We receive 75 per cent of our alarms over the telephone. Upon receipt of telephone alarms, one operator notifies the nearest company, the other operator sets up the nearest box on transmitter, which in turn automatically sends the balance of the assignment to that location. Telephone alarms are recorded the same as box alarms on prescribed forms.

We verify alarms by first asking for the location of the fire, what is burning, and the names of the intersecting streets. Thus the correct location is verified. We've had no complaints of the Fire Department failing to get location of fire correctly over the telephone for all fire alarm calls to our office are supervised by telephone operators employed at the various exchanges. You may not be able to trace a call coming through the dial exchanges but we have had very little trouble with this. We are able to trace fire alarm calls over the manually operated telephones and exchanges.

C. L. Bolz, Asst. Chief, Pasadena, Cal.: For the fiscal year 1936-37, we received a total percentage of 11.48 box alarms, 2.73 from the telephone com-

pany, 4.37 still, 3.46 police, and 77.96 telephone. In recording telephone alarms, we use a manually operated switch which actuates a time stamp. Box alarms are, of course, automatically recorded.

In receiving fire alarms from the telephone company, the verification is made by the company which supervises such alarms. We verify all telephone alarms by repeating the location back to the caller. We have had no complaints of the department failing to get location of fire correctly, due to care taken in verifying calls as they are received.

It is possible that an automatic method of recording telephone alarms might be made practical, but we have found no real need for such a device.

Cecil Casey, Asst. Chief, Lubbock, Tex.: All of our alarms are received by telephone, as we have no fire alarm system. We have a very effective method of verifying alarms in case of doubt. Our telephones are used both for business, and receiving alarms. Any one calling this department is always asked by the telephone operator if he wishes to report a fire. The operator gets the street address, telephone number, etc. It causes a slight delay, but it is well worth it. It has been used on several occasions, when there was a case of misunderstanding and it is also very effective for tracing false alarms.

We have never had any direct complaints for failing to get the address of fire correctly, but it has happened several times, due to the fact that all our avenues run alphabetically, and are easily confused. There is surely a great need for some method of automatically recording alarms as they are received, especially in the smaller towns, that have to use a straight telephone system.

W. R. Williams, Chief, Fresno, Cal.: About 67 per cent of alarms are received over the telephone (however, taking the area in which street boxes are available, approximately 72 per cent of our calls come over street boxes). When an alarm comes through, the operators on duty make manual record in the daily journal, giving time, location and such information as is given to them by the party calling.

We have found no effective method of verifying telephone alarms. Fresno is equipped with a complete dial system telephone service. We have no way of verifying these calls, unless the party calling should dial "operator" instead of dialing the fire call number, in which event our operators frequently check back with the telephone operator, to check the information which they (telephone operators) may have received. We have also considered installing a loud speaking system on the fire telephone receiving equipment in our station, but are advised by telephone company engineers that, due to the fact that there are so many different variations in voices, this procedure is quite impossible to use with any degree of satisfaction.

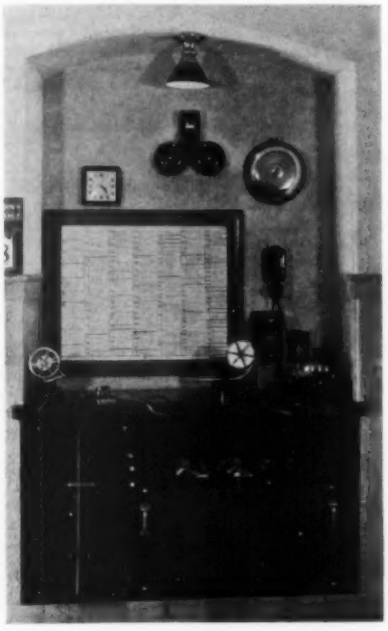
Complaints of the Fire Department failing to get the location of a fire correctly over the telephone occur occasionally. This difficulty is sometimes experienced when people calling may use a foreign accent, which makes it difficult for the operators to sometimes clearly understand street intersection given. However, this is a rare occurrence in our city.

There is a need for some method of accurately recording telephone alarms automatically as they are received, such as a machine similar to commercial dictating machines. I believe that this type of equipment, if it could be installed to function properly, would be a very valuable addition to the Fire Alarm Central Station, as it would, perhaps in some cases, be an additional method for the Fire Alarm Operator to use in confirming information which he had received over the telephone. It would also act as a definite recording device as to time, etc., and would eliminate the question of a variation of time which may come up, due to someone feeling that the department had failed to respond immediately upon their call. In other words, it would mean a positive and definite record as to time and information received of the location of a fire, the same as is given by street fire alarm box.

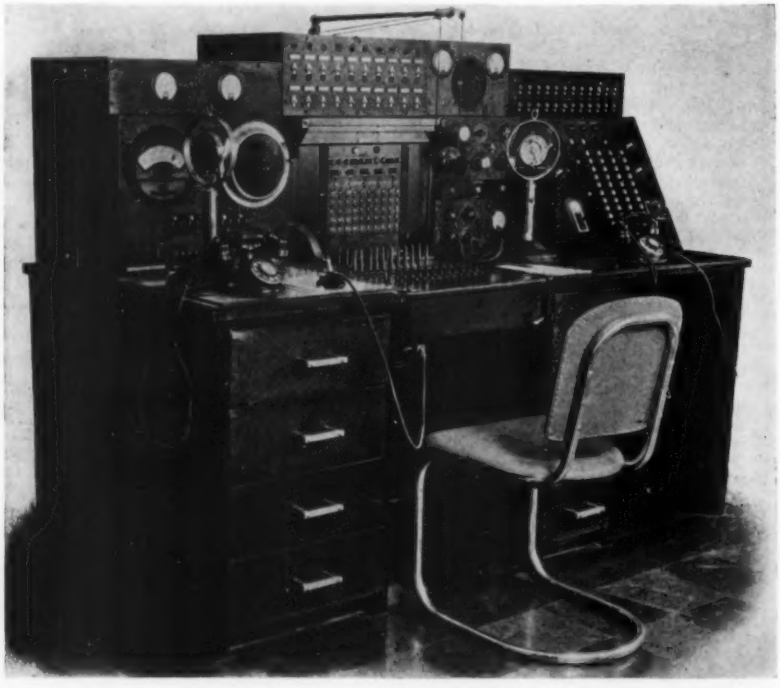
S. J. Flores, Chief, Shreveport, La.: Forty per cent of all alarms of fire are received over the telephone, taking the city as a whole. Only six per cent are received over the telephone from the commercial area, where we have a box on every corner. Most of the boxes are equipped with double action doors. We have two operators who receive the telephoned alarms. One writes down the message, while the other confirms it back to the party reporting the call.

We have found no effective method for verifying telephone calls. We have been using loud speaking telephones for the transmission of telephone alarms from the central office to the fire stations for several years, and our percentage of incorrect calls averages about two to every 1,000 correct calls.

We believe some improvements could be made in receiving automatically recorded telephone calls. However, after conducting experiments with commercial dictating machines,



Telephone and Alarm Receiving Apparatus at Shreveport Fire Station



Fire Alarm Operator's Pedestal
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we do not believe that the cost and complications would justify the results obtained; and that the only accurate and reliable means for transmitting an alarm is from a standard fire alarm street box.

Our figures reveal that while 40 per cent of our calls come over the telephone, approximately 90 per cent of this 40 per cent are for rubbish fires and blazes that really do not require two or more companies, and our figures further reveal that with a box a block properly located and properly painted, the percentage of telephone calls is practically nil.

The photographs of our engine house receiving sets show the loud speaking telephone with its associated equipment, and the operator's pedestal where all calls are received and retransmitted. On the left hand side of the operator's pedestal is the loud speaking telephone transmitter. In the center is the department owned and operated telephone switchboard. In the center panel to the right, behind the right-hand microphone, is the department owned short wave radio transmitting equipment. This is also used to reconfirm telephone and box alarms to apparatus while on way to a fire. On the extreme right is the fire alarm box transmitter for retransmitting alarms received from the street boxes.

R. E. Mottesheard, Chief, Dearborn, Mich.: We receive about forty per cent of our alarms over the telephone. The man on watch is instructed to repeat the information for verification. Occasionally we have difficulty in understanding the party giving the alarm, due to their excitedness or broken speech.

Our men are instructed to be sure of sufficient information to enable the officer to locate the fire with as little delay as possible. This often accounts for a slow response because of the time required to secure such information.

Information recorded by an automatic method such as a dictating machine would be valuable should a dispute arise as to time and information given on an alarm over the telephone.

G. M. Kellogg, Chief, Sioux City, Iowa: We receive about 80 per cent of our alarms over the telephone. We keep record of such telephone alarms, the same as other alarms. We have found no effective way of verifying most of them.

We have, however, had but very few complaints, as we try to verify the alarm, if uncertain. I believe there is a need for some method of accurately recording telephone alarms automatically, if such a device could be found.

John A. Fisher, Chief, Duluth, Minn.: In 1936, we received 1,218 alarms; 936 by telephone, 151 box alarms; radio, 3; verbal, 51; special, 73; false, 110; unnecessary, 309; working, 726; totaling 1,218, or 77 per cent of all our alarms are by telephone. We have a dispatches report that the operator files daily. It has his name, time, weather conditions, location, etc., when receiving such alarms.

The only method we employ in verifying telephone calls is to have our dispatcher call the telephone company's operator and sometimes he can trace the call back to its origin. And again, the company's telephone operators are alert to excited calls and keep the lines open for emergency calls, so as to be sure the Fire Department receives correct addresses.

The complaints for incorrect telephone calls are so small it isn't noticeable. I do believe a machine similar to a dictaphone would be good to record telephone fire alarms. It would record the voice of the party reporting fire and serve as a double check. Our radio equipped cars certainly assist greatly in correcting wrong locations, etc., should there be any.

John Gibson, Chief, Mt. Vernon, N. Y.: About 50 per cent of our alarms are received by telephone. Our telephone operator is instructed to get the name and address of the party calling, the address of where the fire is located, if in an apartment house, to get the number of the apartment. We have no way of verifying telephone calls, although the telephone company checks with us as far as they possibly can, but on dial phones we have no way for checking or tracing a call.

We have on several occasions received and gone to wrong locations. There is certainly a need for some method for automatically accurately recording telephone alarms, as they are received. But the telephone, however, to transmit alarms is at its best a very poor second, as we of the fire service know, and we are always trying to discourage its use for transmitting alarms.

J. L. McLane, Chief, Charleston, W. Va.: About 75 per cent of the alarms in our city are sent in by telephone. All alarms sent in this way are recorded in a ledger. We have no method of verifying telephone calls.

Errors may be caused by excitement, and the similarity of street names. Any accurate method for automatically recording phone calls would eliminate misunderstanding as to location.

Walter F. Israel, Chief, Detroit, Mich.: Fifty-nine per cent of the alarms sent in are sent in by telephone. When such an alarm is received we get the name of person calling, street name and intersecting streets, both sides, and the nature of the fire. The nearest company is notified and the box number sent to the department. The greatest difficulty we encounter is to get the informant to remain on the line long enough to give full information.

Wm. T. Hall, Chief Operator, Rochester, N. Y.: During the year 1936, 57 per cent of alarms were sent in by telephone. Telephone alarms are relayed to the fire companies in the district calling. In our city we send two pumpers, one ladder truck and the Battalion Chief of the district. In the congested value district, the Deputy Chief is included.

We have no effective method for checking telephone alarms. We believe that a plan along similar lines as the commercial dictaphone would be of benefit, if it could be worked out and if the cost was not too great.

C. H. Engert, Asst. Chief, Callicoon, N. Y.: We are a volunteer Fire Department, located in a village of about 1,000 population and serve quite a bit of rural territory outside of our village. Under these circumstances the telephone plays a very important part in our work. We receive about 90 per cent of all fire calls by telephone.

If the call is for aid on a farm or residence outside of a fire district, we find out who is making the call, water conditions and the type of fire. The reason for insisting on knowing who is making the call is that in case some one gets hurt, we want to be backed by a responsible party, especially if that town does not carry insurance. We adjoin two other townships, one of which carries insurance and the other does not. All telephone calls for assistance outside of the fire district are taken by the Chief or Assistant Chief. So we are quite sure to know where we are going and what the conditions are before we leave.

In calls for aid within a fire district, we insist the call must be from the Chief, Assistant Chief or a Commissioner of the district, or some one we know is a responsible person within the fire district. We have not had any complaints as to proper location of fires. Our siren is also operated from the central office of the telephone company and by cooperating with the telephone operators, we find our present set-up to be very efficient.

W. P. Payne, Chief, Spokane, Wash.: About 90 per cent of alarms received are by telephone. After such an alarm is received we call every station to see if the telephone call was correctly received. Then we tap in an imaginary box in another circuit. We have over 1,400 boxes of that kind. We have less mistakes on telephone calls than on box alarms. Our telephone service is very efficient. We have no complaints.

We have no means at present of recording telephone alarms, but believe it would be a wonderful help to have phone calls automatically recorded as they are received. We are now working on a loud speaker, the same as they have in other cities.

Luther Willis, Chief, Pueblo, Col.: In 1936, 81.5 per cent of the alarms received were telephone alarms, or out of a total of 645 alarms we received, 526 were telephone alarms. As our operator receives the telephone alarm he writes the location down on a blackboard. If one happens to be a telephone false alarm, we have the telephone supervisor check back as to what telephone was used to send the alarm. Very few times have we received the wrong location over the telephone.

I don't believe there is a need for an indicator or recording machine in our department, as over a long period of years that we have been using the telephone, we have had very little trouble in getting the correct location.

George Boughner, Chief, Grand Rapids, Mich.: About 60 per cent of our alarms are received by telephone. For still or telephone alarms in congested districts, one company is detailed to the location and the box in the vicinity is set up on the manual system. We only check on calls when responding to alarms outside of city limits, then the parties calling are requested to give their telephone number. They are then instructed to hang up the receiver and the operator calls them back. We very seldom have any complaints.

I do not think it is necessary to have an automatic recording machine for telephone alarms, because we do not send apparatus out until the prop-

er location is given. I do not believe it warrants the expense. More mistakes are made in receiving box alarms than telephone alarms, due to the watchman giving the wrong location. This is a rare occasion, however, but some mistakes are bound to be made in receiving and transmitting alarms.

* * *

Answers to Previous Question

The following replies were received in answer to a question concerning salvage work in the department:

Alex W. Dotson, Chief, Elkhart, Ind.: We do salvage work, that is all we can, with what we have to do it with. We have no covers. We believe salvage work reduces losses.

C. E. Foster, Chief, Astoria, Ore.: We do salvage work. We have eight covers, two on each piece of apparatus. We have only had our covers about four years. They are as good as new.

Untold benefits are derived from such work and after four years of doing salvage work, I do not see how any department can be efficient without covers. We feel they are almost as important as hose, and that we might as well go to a fire without hose as without our salvage covers.

A. T. Callahan, Chief, Harrison, N. J.: We perform salvage work to a certain extent. That is, if we are operating at a fire on an upper floor with water and chemicals, and they start to drop through the ceiling on to the lower floor we cover any furniture in the room that cannot be readily moved. We do not, however, cover on entering any building or factory.

We have six tarpaulin type covers and they are carried by the truck company. The useful life of the covers, they way we use them, is indefinite, unless they become torn. Of course the quality of the covers make a difference, too.

Salvage work reduces loss by fire and water. Some people do not have their furniture insured, and to them it is an act of kindness, although we make no distinction either way. I do believe salvage work should be performed by a trained corps maintained by the insurance companies.

F. L. Campion, Chief, Fargo, N. D.: We do salvage work. We have twelve covers which are carried on the ladder trucks. Ten years is approximately the life of a salvage cover.

Results from salvage work are not only benefits resulting at the time of salvaging, but the tendency to make the firemen more cautious regarding damage to goods or structure while in the act of extinguishing the fire. We consider it as much our duty to do salvage work, rescue work, and first aid work, as putting out fires.

M. J. Fleming, Chief, Albany, N. Y.: All salvage work is done by the Protective Company which is operated by the National Board of Fire Underwriters. The Fire Department carries tarpaulins on all trucks to cover up in the event the Protectives are in service at another fire, or in a district where they respond only on special calls. The life of such covers is ten years.

A great reduction in fire losses result where good covering is applied. There is a great saving on property loss where buildings are drained. Roofs which have been opened at fires are covered to protect building from the elements. It results in reduction of loss.

George F. Lynch, Acting Chief, Newark, N. J.: Our department does not perform salvage work, but the officers and members of our department are instructed to cooperate as much as possible with the salvage corps maintained by the Board of Underwriters.

Many and various are the results of salvage work, such as civic pride of your city, lowering of insurance rates, which has a tendnecy to lowering of the tax rate and to bring various industries and families to locate in your city.

B. J. Reilly, Chief, Ithaca, N. Y.: We do salvage work. We have thirty-five covers which are carried by the salvage squad and trucks. We clean, air, dry covers after use and repair them when needed. We have many covers eight years old and in excellent condition. After salvage work, frequently water damage is entirely eliminated, but generally water damage is reduced at least 50 per cent.

E. C. Hoskin, Fire Marshal, Highland Park, Ill.: Salvage work is performed in our department. We have six covers, one on each pumper and four on hook and ladder truck. We have covers ten years old that are still in good condition. A department doing salvage work at fires shows efficiency and good workmanship. We also gain the respect of the citizens in the community.

H. Travers, Chief, Baltimore, Md.: All salvage work in Baltimore is done by the Fire Insurance Salvage Corps.

Wm. Freeh, Chief, So. Bend, Ind.: Salvage work is performed in our department. We have thirty covers which are carried by the salvage truck, truck companies and chemical company. Eight to ten years is the useful life of a cover, if it receives careful usage.

The performance of salvage work eliminates considerable fire loss and water damage.

V. C. Shepard, Chief, Macon, Ga.: We do salvage work in a small way. We carry twenty covers and these covers are carried on our ladder trucks, on the Assistant Chief's car. This gives us from eight to ten covers at each fire. In my opinion, salvage work is one of the greatest aids a department can render to its citizens.

Wm. L. Ryan, Chief, Dubuque, Iowa: We do salvage work in our community. We have thirty-two covers, two on each pumping engine and ten on two ladder trucks. With considerable repairs a cover will last ten years.

In addition to reducing the water damage to a minimum, during the course of fires, we have gained many boosters for the Fire Department by the use of covers. We cover roofs and other openings caused by fire to keep out storms, water leaks, etc.

L. R. Morris, Chief, Ames, Iowa: We do salvage work and have eight covers. Each apparatus carries two. The life of a cover depends upon the care and the service given the cover. Salvage work results in the saving of water loss and makes many friends for the department among those that have fires.

O. Hiestand, Chief, Casper, Wyo.: Salvage work is performed in our department. We have six covers carried on the pumper and Chief's car. The life of the cover depends upon the care given it. The results of salvage work in small, undermanned Fire Departments are not many.

George N. Fletcher, Chief, Rochester, N. Y.: Yes, we do perform salvage work in our department. We have 120 covers and they are carried on the Protectives apparatus and seven on trucks. Their useful life is anywhere from two to three years. Benefits of such work is assured and keeps the fire loss down.

J. G. Sarran, Chief, San Antonio, Texas: We do perform salvage work in our department. We have thirty-eight salvage covers which are carried by the truck companies. We consider four years as the useful life of such covers. The result of salvage work is a great saving in property content.

Frank Meuier, Chief, E. Hartford, Conn.: Salvage work is performed in our department. We have six covers and they are carried on the pumpers. Ten years is considered the useful life of a cover. Salvage work performed at a fire produces satisfied taxpayers.

S. Ferguson, Chief, Fort Worth, Tex.: We perform salvage work in our department. Our department has ninety salvage covers and they are carried by the ladder companies. These covers are generally useful for about six years. Aside from actual salvage, we receive more commendatory comments than on any other part of service rendered.

J. H. Monroe, Chief, Savannah, Ga.: Our department performs salvage work. We have fifteen covers which are carried on the trucks, pumpers and wagons. Eight years is about the length of time that a cover may be considered useful. Salvage work renders untold savings to taxpayers through protection of personal property.

Chas. Andrews, Chief, Ann Arbor, Mich.: Our department performs salvage work. We have six salvage covers carried on the trucks. Ten years is approximately the useful life of a cover. By quick salvage work you can save a lot of goods.

James J. Delaney, Chief, Springfield, Ill.: We perform salvage work in our department and have twenty-four covers which are carried both on the hook and ladder trucks, and the pumpers. The life of covers depends upon the care they get, and whether they have been burnt. Five or six years is generally considered the useful life of a cover.

Clyde Campbell, Chief, Grand Island, Neb.: Salvage work is performed by our department. We only have six covers, two on each job, but have found them to be very useful. I can't say what the useful life of such covers would be as I have had ours only about a year.

There are many benefits as the result of doing salvage work. The covers are a wonderful help to keep water from doing damage. We had a roof fire, before I got the cover. It did about $400 damage. If I had them it would have cut the loss down to about $200. That's what I think of the value of salvage covers.

(To be continued)

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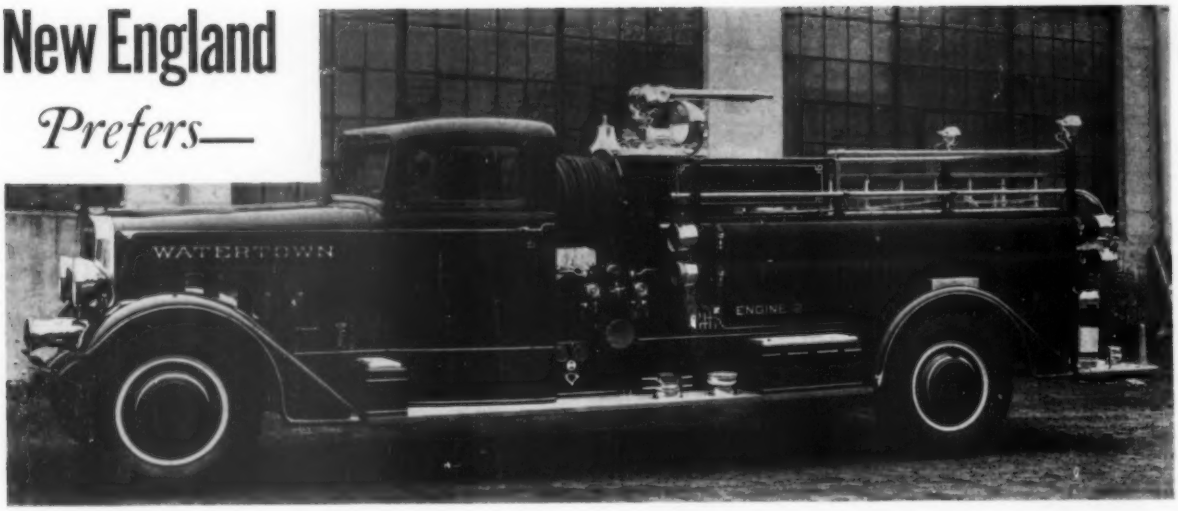

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Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Dents in Play Pipe

To the Editor:

On our company we have a play pipe (we call it a branch pipe) which has several dents in the barrel. I claim this has a tendency to break the stream. An officer says this has no effect on the stream. This pipe is 32 inches long. F. H. H.

Answer: A dent in the barrel of a play pipe may have a very marked effect upon the stream. If the dents are large, there is a likelihood of the stream being badly broken up. The nearer the dents are to the nozzle, the more pronounced the effect.

Some Problems in Hydrostatics

To the Editor:

Will you kindly answer the following questions?

1. A water tight box weighing 125 pounds, and 6 feet x 2 feet x 18 inches, is placed in a river (smooth water). How many inches of water will it draw?

2. A ball weighing 390 pounds is equivalent to one cubic foot. It is suspended by a wire. When this ball is placed in the water and completely submerged, how many pounds will it weigh? (62.5 pounds to the cubic foot is the weight of water.)

3. A tank 10 x 10 x 10 feet is full of water and is connected to a second tank by a pipe one foot from the bottom. The other tank is 20 x 20 x 20 feet and has 5 feet of water in it. Water will seek its own level when the valve is opened. How many inches will it drop in the one tank and how many inches will it use in the other tank? The diameter or length of pipe has no reference to the answer.

4. What is the ring tension on a 3½-inch coupling with a 60-pound pressure?

A. E. R.

Answer 1: A body immersed in water is buoyed up by a force equal to the weight of the water displaced. In other words, if a body immersed in water displaces one cubic foot of water, the force acting upward against that body is 62½ pounds, the weight of the water displaced. Bear this in mind in the following calculation.

The dimensions of the box are 6 x 2 x 18 inches or 6 x 2 x 1½ feet, or 18 cubic feet.

The box weighs 123 pounds.

The weight of one cubic foot of water is 62.5 pounds.

Thus the box weighs the same as two cubic feet of water. Hence it will displace two cubic feet of water when placed in the water.

The area of the bottom of the box is 6 x 2 feet, or 12 square feet. If the box displaces two cubic feet of water and its area is 12 square feet, we solve for the depth the box will rest in the water as follows:

Change all dimensions to inches. Two cubic feet equals 3,456 cubic inches. Twelve square feet equals 12 x 144 or 1,728 cubic inches.

3,456 ÷ 1,728 gives us two inches, the depth which the box will rest in the water (its draft).

Answer 2: The ball weighs 390 pounds when suspended in air, and its volume is one cubic foot. It will therefore displace one cubic foot of water when submerged, or 62½ pounds of water.

The weight of the ball when submerged will then be 390 — 62.5, or 327.5 pounds.

Answer 3: For the sake of simplicity in description, assume X to be the depth of water in the smaller tank, when the water finally comes to rest in both tanks. The depth of water in the smaller tank which will flow out will be 10 feet minus X. The area of the tank (horizontal cross-section) is 10 x 10 or 100 square feet. Then the amount of water which will leave the smaller tank will be 100 X (10 — X) cubic feet.

The final level of the second tank, the larger one, which is initially filled with five feet of water, will be also X. As it has five feet in it already, the amount it will rise will be X — 5. The horizontal cross sectional area of this tank is 20 x 20, or 400 square feet.

The amount of water which leaves the smaller tank will be equal to the amount of water the larger tank receives. Thus we can say 100 X (10 — X) equals 400 X (X — 5).

Solving, we get 1,000 — 100 X = 400 X — 2,000.

From which we get 3,000 = 500 X, or X = 6 feet.

Hence the final level of the water in the smaller tank will be six feet as will also the water level in the larger tank.

Now to prove the answer: the amount of water lost by the first tank equals 4 x 10 x 10 or 400 cubic feet.

The amount of water gained by the second tank equals 1 x 20 x 20 or 400 square feet, which is correct.

Therefore the water in the larger tank rose one foot, or 12 inches, while the water in the smaller tank dropped four feet or 48 inches.

Answer 4: The meaning of "ring tension" as expressed in the question is not clear. It will be assumed, however, that it is the tension under which the expansion ring holding the hose to the coupling is placed.

The cross section area of the hose equals 3½ x 3½ x .7854 or 9.62 square inches.

Pressure in pounds per square inch equals 60; therefore the total pull on coupling, and on the expansion ring, is 60 x 9.62, or 577.2 pounds.

If tension in hose is meant, it will be 105 pounds per lineal inch measured lengthwise of the hose, or 159.3 pounds per lineal inch, measured around the line (circumferentially) of hose.

Friction Loss When Flow is Given

To the Editor:

According to Shepperd's hydraulic book the formula for finding the friction loss in 2½-inch hose is: $2Q^2 + Q \div 100$. If the friction loss is given, what is the formula for finding the volume of water passing through the hose?

Problem: The friction loss in 100 feet of 2½-inch hose is 22.32 pounds. What is the volume of water passing through the hose? R. W. L.

Answer: I will first show how the problem can be worked out by mathematics, utilizing an equation of the second power, and then show how it can be worked out by so-called "rule of thumb."

The friction loss you have per 100 feet of 2½-inch hose is 22.32.

Then we can put our formula in this shape:

$2Q \times Q + Q = 22.32$, or $2Q^2 + Q = 22.32$.

Now in order to get the equation in such form that we extract the square root of each side, we proceed as follows:

First multiply both sides of the equation by 2 and we have

$4Q^2 + 2Q = 44.64$.

But you cannot take the square root of $4Q^2$ plus 2Q, for you have to have a third member of the equation. This third member is ¼. If we add ¼ to one side of the equation we must add it to the other also and then we have:

$4Q^2 + 2Q + ¼ = 44.89$.

Now we can take the square root of either side of the equation. The square root of the left-hand side is $2Q + ½$ and the square root of the right hand side is the square root of 44.89, or 6.7.

In other words we have the following:

$2Q + ½ = 6.7$.

Deducting ½ from each side of the equation we get

$2Q = 6.2$ or $Q = 3.1$.

This 3.1 is the flow in hundreds of gallons per minute, or in figures it is 310.

And now here's the "rule of thumb" method for accomplishing the same result.

The steps are:

Take the friction loss in 100 feet of 2½-inch hose.

Multiply it first by 2.
Add 0.25 to it.
Take the square root of the total.
Deduct 0.5 from the square root which you secure.
Divide the remainder by 2 and the answer you will get is the flow in hundreds of gallons per minute.
Example: Suppose the friction loss per 100 feet of 2½-inch hose is 22.32.
Multiply by 2 or $2 \times 22.32 = 44.64$.
Add to it 0.25: $44.64 + .25 = 44.89$.
Take the square root of 44.89: The square root = 6.7.
Deduct 0.5: $6.7 - 0.5 = 6.2$.
Divide by 2: $6.2 \div 2 = 3.1$.
Flow is then 3.1 hundreds of gallons per minute, or 310 per minute.

By William Paul Babcock

SPEAKING of old times in the New York Fire Patrol, as I was last month, and especially of my experiences with Patrol No. 1, when located at 41 Murray Street, "under the el," I recall a very amusing experience.

Shortly after we had been thoroughly drilled in "stripping," we rolled out to our first regular alarm. The officer in charge of this detail was the then Lieutenant Louis Ammermuller, now Captain of Patrol No. 5, up in Harlem, and this story shows that "Ammy" had a good head and used it, as any officer should.

The call was an "automatic," and directed us to a big loft building about where the approach to the West Side elevated highway now cuts through near Washington Street, and to the fifth floor. Picture, if you can, two "hick" firemen, in full working togs, with three or four salvage covers each on their shoulders, climbing an iron, spiral stairway five floors! Boy, Oh boy, when I reached the fifth I was all **but**. Seeing other "red hats" in on the floor, I staggered through a doorway into the loft, and as I did so, brushed, rudely an old guy standing in the doorway, right in my way. He was so poorly attired I gave him little thought, but sensed he could be of no importance, standing there apparently idly. He let out a yell, but I pushed on into the fray, with an "ah, gway, git to work yerself."

Well, there wasn't much fire and we were soon backed out. But it seemed to old hands that it was taking "Ammy" a long time to check up on occupancy and losses and insurance, for we waited quite a few minutes before he came down to the wagon. And when he did, his first act was to face the crew and ask in commanding tones, "Who is wearing No. 369?"

I pleaded guilty and Ammy said: "I thought it was strange, for I knew it was O'Leary's day off, and thank God for that. But now Babcock, did you bump into a man in uniform as you went into the loft?"

"Why yes," I admitted, "there was an old guy with soiled uniform obstructing the doorway and of course I went right by him."

"Well," said Ammy, "had you any idea who that old guy might be?"

"Of course not," said I, "but surely no one of any importance." "Oh no" said Ammy, "only *Deputy Chief Binns!*" (Shades of Jimmy Durante!)

"Well" said Ammy, "it took me a long time to figure out how O'Leary's kit was in service today, and then I luckily remembered that I had a couple of ambitious volunteer firemen working with me and that saved the situation and made even Chief Binns laugh." Then "O.K. Hahn" (the driver) "we'll return to quarters now."

And that was that, but in future rolls I did not look for New York chief officers to be all dolled up as on parade and I learned to take things a little easier.

SEND IN YOUR NEWS

The Editor of "The Cover," invites Fire Chiefs and salvage company officers to submit items for publication in his column.

You fellows who are on the firing lines can do a service for the entire field if you will give this cooperation to Mr. Babcock.

Why not tell us of some of your experiences with salvage work?

THE EDITOR.

Wilmington To Open New House

The Wilmington, Del., Fire Department expects to occupy its newest fire station on November 1. It is a $100,000 building and will replace the station at Tatnall and Friendship Streets.

The station will have two huge drum humidifiers to expedite the drying of fire hose. The drums will be placed in the basement. When the fire company leaves the station, the watchman's office will control traffic signals at busy nearby street intersections.

The building is two stories high with a basement. Much space on the first floor will be used as the apparatus room.

It's Prof. R. C. Criswell

A new instructor of volunteer firemen has been appointed at the University of Maryland. He is R. C. Criswell and he will serve under the title of Professor of Fire Prevention.

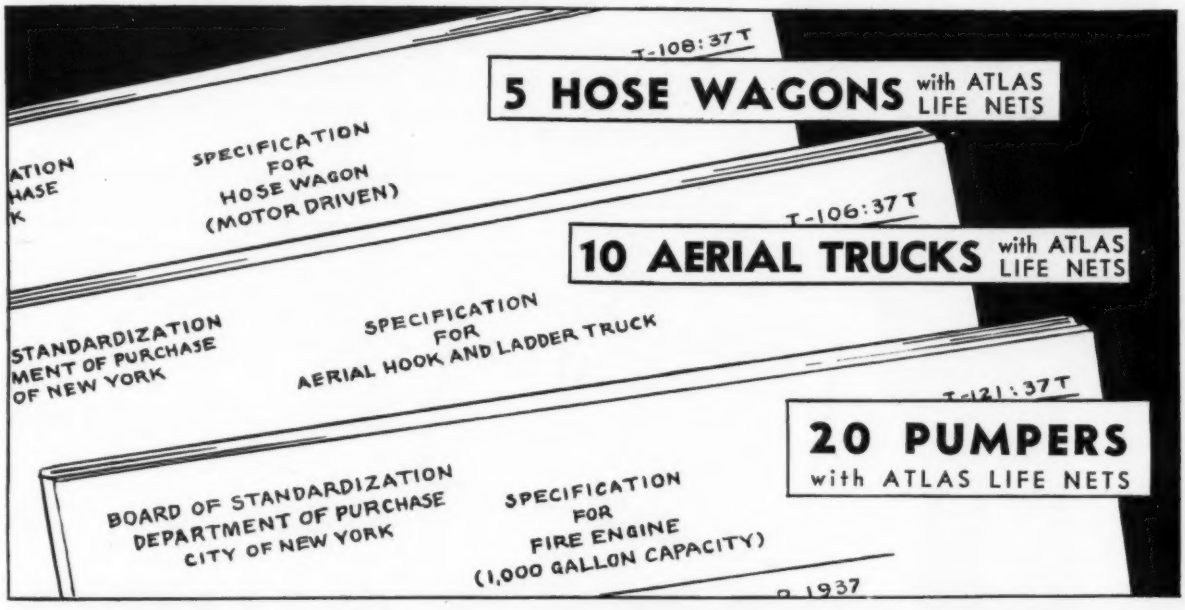
This is a new post created by the last session of the Legislature. Mr. Criswell was formerly an instructor of firemen in West Virginia and Ohio. He will be assigned to the College of Engineering.

Mr. Criswell graduated from Cambridge, Ohio, High School. He attended Ohio State University where he was a member of the Varsity track and cross-country teams and graduated in Electrical Engineering in 1914. In the World War he was an officer in the Engineering Corps. During the past several years he has instructed at many of the fire schools in the midwest, assisted in the training of thousands of firemen in Ohio and West Virginia, and made hundreds of addresses on Fire Prevention subjects. He is Chairman of the Fire Protection and Water Supply Committee of the Fire Prevention Association of Ohio and former Chairman of the Fire Prevention Committee of the All-Ohio Safety Congress. OTIS SMITH.

Fighting Fires Is Different When War Is a Possibility

England is in constant fear of what might happen, if during a war, some community is subjected to an air raid by hostile forces. The officials of the Navy, Army and Air Force staged a demonstration at Kew of a fire van which, in an emergency, can be converted into a fire-fighting unit. In case of a gas attack, special fluid can be used to make the gas ineffective. The photograph shows a gas masked operator demonstrating the van-fire engine.

NEW YORK *SPECIFIES*



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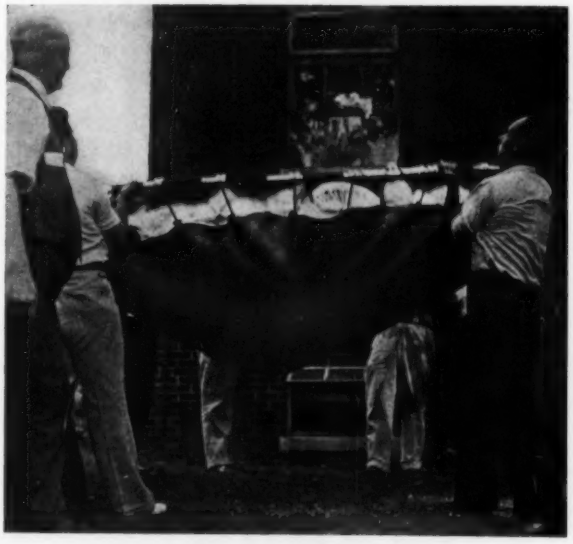

Impact has occurred. Only six men hold net with no noticeable strain.

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Fighting fires is a "he man's" job, especially so in winter. Long cold runs in wet clothing has put many a "he man" to bed with a severe cold or worse. The one best assurance you have of keeping warm and dry is to slip into a GLOBE SUIT.

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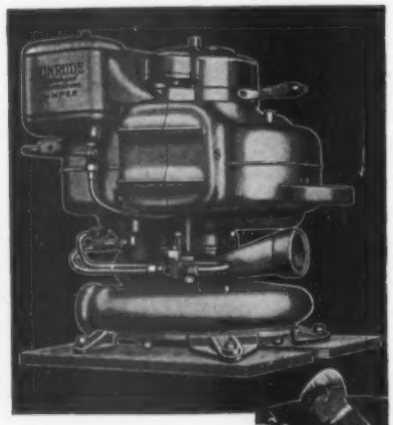
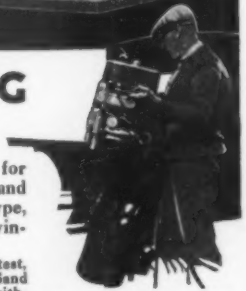


FIRE FIGHTING



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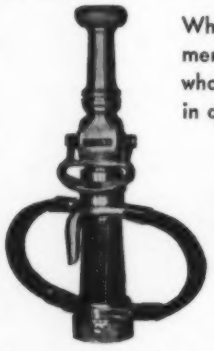

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Bill Brosnan, Chief Extraordinary

An Introduction to the Life Work of a Man Who Has Demonstrated That Fire Prevention Can Be Practised Each Day of the Year

By HENRY T. McINTOSH

IT is the philosophy of Dennis W. Brosnan, Fire Chief Extraordinary, that efficiency doesn't just happen.

In Albany, Ga., where the Rotary Club made him its President in 1936, he is "Bill" to hundreds of friends, and he still is "Bill" at annual conventions of the International Association of Fire Chiefs, of which he was President in 1931-32.

Albany is known in national fire-prevention and fire insurance circles as the "fireless city." It is not a big city; the 1940 census probably will shows its population under 25,000, yet it is big enough to have won more national fire awards than any other city, large or small, in the United States. It won five class awards and two grand awards given by the Chamber of Commerce of the United States, finally withdrawing from competion "lest we seem hoggish," as Chief Brosnan put it.

But progress in fire prevention in Albany did not stop with withdrawal from contests for Chamber of Commerce of the United States trophies, as witness the fact that Albany's finest year's record in fire prevention was made in 1936. Total insurance carried on buildings and contents in Albany in that year ran into many millions, but the total fire loss was only $2,485. That bettered a continuous record of improvement which began nearly 20 years ago.

It was in 1911 that Dennis Brosnan became Chief of the Albany Fire Department. Before that he had been ordinary fireman and Assistant Chief, and had been in Uncle Sam's railway mail service.

Nobody seemed very much interested when the new Chief announced that if it was a Fire Department's business to pour water on fires to prevent them from spreading, it was a much more important duty to keep them from starting.

"The fire that never starts will never get out of control," he told his firemen. "From now on we're going to fight fires before they're born. I believe with all my heart in that sort of birth control."

He went to the local press, to the schools, to the Chamber of Commerce, to the merchants' associations, to the civic clubs, to the insurance agents, to the churches, and to the fraternal orders.

"We have too many fires," he told a hundred audiences. "They are expensive, and a reflection on our intelligence. Fires not only destroy property; they also endanger human life. They are public enemies—a hazard we ought to control!"

Progress was slow at first. Albany's fire loss in the 10-year period from 1915 to 1925 was $3.40 per capita, but from 1925 to 1935 it dropped to 70 cents. It continues to drop—it was a measly 14 cents last year.

Albany Reaps Profits

Today Albany enjoys the lowest fire insurance rates in the Southeast, and they are justified by the underwriters' experience. Progressive reduction of rates represents an annual saving to property owners amounting to several times the cost of maintaining the Fire Department.

What does "fire prevention" mean? To "Bill" Brosnan it means thinking ahead, being "hardboiled," playing no favorites, never allowing to wear off the novelty of stopping fires before they start, never taking for granted that a fire cannot start anywhere. Every hour of every night in the year a fireman in uniform makes the rounds of the Albany business district. He flashes his light through the glass doors of stores and shops. He has keys which admit him to cotton warehouses, and these he patrols "with his nose in the air" for the smell of fire. Time and again has this watchfulness been rewarded by the "smelling out" of a bale of cotton with fire smoldering within. It may be necessary to move 50 bales in order to reach the one bale that threatens a $100,000 blaze, but such things are all in the night's work in this "fireless" town's business section.

That sort of alertness also discourages incendiarism. While any kind of a fire, no matter what its origin, hurts Chief Brosnan's pride, an incendiary blaze makes him fighting mad.

"If I get suspicious of some fellow who seems to want a fire, I keep watch on his place of business, and manage to let him know I'm watching. I do that as much for his own protection, as for the sake of other property owners and the insurance companies. I'd hate to be responsible for his being sent to the penitentiary." So says this Chief, who believes that a job well done must be thoroughly done.

But it is only fair to mention the Chief's tribute to his home town's citizenship.

"Today," he said recently in addressing a local gathering, "Albany people are definitely fire prevention minded. They really stand guard over their own and their neighbor's property. They are proud of their community's fire record, and the fact that there is such a record is evidence of fine citizenship. You can't make a velvet purse out of a sow's ear, and you can't have a fireless town without a high-minded citizenship."

Years ago Chief Brosnan asked the City Commission to make him building inspector and give him a stricter building code—not because he wanted another job, but because improperly constructed buildings are apt to become fire hazards. He personally issues all building permits and inspects all construction.

Fire drills in Albany schools are always in order, and greater emphasis is placed on protection of life than on protection of property. In all the years of the Brosnan crusade to make a burning building a novelty in his town, no life has been lost as the result of a fire, and not in years has a blaze originating in one building reached another building.

Of course, Albany maintains a model Fire Department. The municipal water supply is adequate, trucks, and pumping machinery are of

(*Concluded on page* 548)

Reprinted from "The Rotarian"

Control of Arson

Holding Down the Possible Incendiarism Cases May Truly Be Termed a Fire Prevention Problem and an Important One

THE meaning of arson in most state laws has been expanded beyond the old common law definition of "the malicious burning of another's house" to include any fire maliciously kindled to burn, not only another man's dwelling, but any property, including one's own. Therefore, the terms "incendiary" and "arson" are frequently used interchangeably today.

Model Arson Law Enacted

A so-called "Model Arson Law" to define arson and provide penalties has been enacted in a majority of states. Its features are as follows:

(a.) It provides that a person who burns a building, whether the property of himself or another, commits arson.

(b.) It includes persons who cause, aid or counsel in the burning of certain buildings. Thus defendants may be prosecuted who might otherwise be regarded as accessories before the fact.

(c.) It defines the preparation of a building for a fire with intent to burn as an attempt to commit arson.

(d.) The fourth feature of the law is the penalty. Under common law, arson was a capital offense in many jurisdictions. The usual defect of the arson statutes of the states where the "Model Arson Law" has not been enacted is in the severity of the penalties, which makes juries unwilling to convict a person on the sort of evidence available in many arson cases. It is human nature for persons to feel that penalty of life imprisonment would be disproportionately severe for the punishment of a person, who, pressed for money, had a fire for the sake of collecting a few hundred dollars from an insurance company. The penalties imposed in the states where the "Model Arson Law" has been enacted have limits which are commonly regarded by men experienced in arson investigation and prosecution as those under which a maximum number of convictions of the guilty may be secured.

Motives for the Crime

Fires have been started where elements of revenge, gain, fear, religious, racial, political or social bitterness, and mania, have led to such antisocial conduct. Some have resorted to starting fires to destroy the physical evidence of other crimes—murder, larceny, burglary, and embezzlement, etc. Property owners have sought to defraud insurance companies by having "crooked" fires. Pyromaniacs start fires to get a "thrill." Occasionally a person will be arrested who has made a profession of burning for hire.

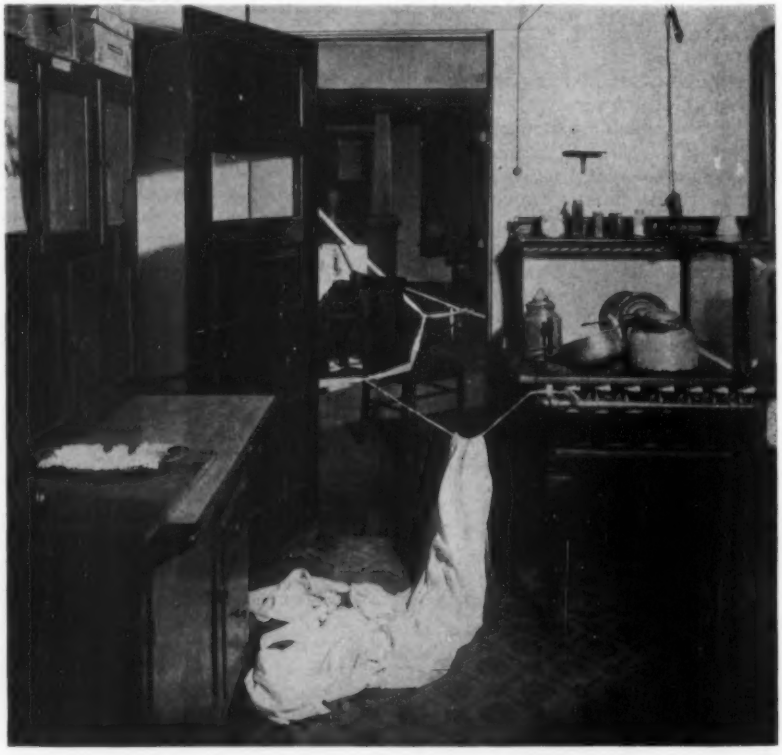
Extent of the Problem

It is, of course, impossible to state the amount of incendiarism and loss of life and property which occurs each year in the United States. Various authorities have estimated at particular times that from 10 per cent to even as much as 50 per cent of the fire losses have been due to incendiarism. The lives of about 10,000 persons are snuffed out each year by fire. It is not known just how many of these unfortunate indivduals have lost their lives through fires purposely set.

The Federal Bureau of Investigation of the United States Department of Justice reported that in 1936, according to the fingerprint records received at that Bureau, there were 821 persons arrested for the crime of arson. This number does not include all of the individuals sent to state hospitals or cases where the offenders were juvenile delinquents.

Detecting the Crime

Arson is recognized as a crime very difficult to detect. For this reason the investigators assigned to such work need a particularly wide range of qualifications. They should, of course, have an understanding of the essentials of fire protection engineering so as to recognize the factors responsible for the starting and spreading of fires. Because their work is directly in the field of crime they should understand the methods of discovering and analyzing clues, and of interrogating suspects. An understanding of the weight of evidence and conduct of cases in court is another valuable attribute. Although there are few individuals who possess all of the requirements, every effort should be



An Incendiary Assembly

In this arrangement, oil soaked streamers connected the kitchen and dining room so that fire would be guided through these rooms.

Excerpts of article in "Fire Prevention Bulletin," issued by the Insurance Department, Chamber of Commerce of the United States.

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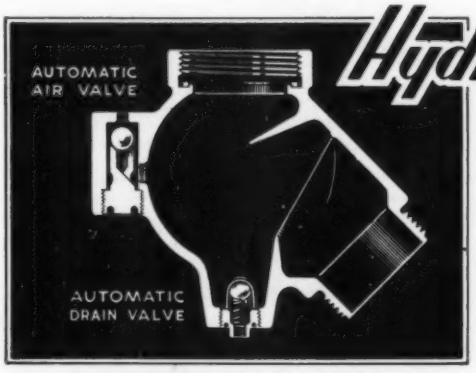
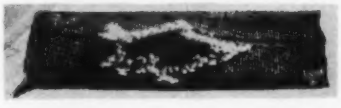
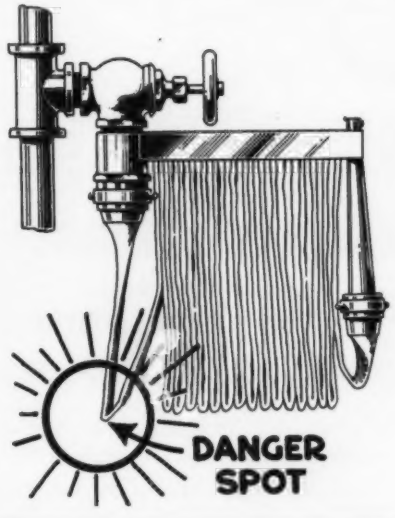


The HYDROLATOR VALVE is a combination HYDROLATOR and stand pipe valve in one unit and is equipped with the automatic air and drain valves. HYDROLATOR VALVES are particularly desirable for new installations instead of the ordinary stand pipe valves.



This hose, weakened by mildew, burst when pressure was applied

Factory Mutual Record



APPROVALS

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FREE TO FIRE CHIEFS

Fire chiefs who are seeking increased appropriations for more fire alarm boxes or fire fighting equipment may help their cause by furnishing the Mayor of their city a copy of

"INFLATION AND FIRE CHIEFS"

by ROGER W. BABSON as it appeared in FIRE ENGINEERING for February, 1937. Copies will be sent free to any chief who writes:

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By ROGER W. BABSON, *President*

Babson Park, Mass.

made to retain investigators having the most satisfactory combination.

Suspicious fires should be investigated immediately. A slight delay may mean that valuable physical evidence will be destroyed or important witnesses will not be available or will have disappeared. A number of local communities have established their own arson investigation departments, and such ventures have invariably been so successful that they have been placed on a permanent basis.

Detroit's Arson Squad

The story of Detroit's Arson Squad is typical of the work being done in many cities, and is valuable as a guide to others.

In the latter part of 1921 when it again became evident that Detroit's annual incendiary fire loss was nearing the million dollar mark, public sentiment demanded that some special effort be put forth to curb this evil which had developed into a flourishing business. It was known throughout the country that Detroit was a lucrative field for professional firebugs and others, who made a practice of defrauding fire insurance companies. These criminals could be procured for any job for fees, usually a percentage of the insurance collected. As a result of this condition two detectives of the police department were detailed to devote their entire time to the investigation of suspicious and incendiary fires and the preparation of arson cases for trial. At first these officers concentrated on the more flagrant cases, which were usually brought to their attention by the battalion chiefs who had fought the fires. At the end of 1924 the number of incendiary fires had been reduced from 111 to 47, the annual incendiary loss from $775,000 to less than $300,000, and 19 convictions had been obtained. The reduction in fires and losses was principally in fires that were set to defraud the insurer.

Although these results were gratifying it was decided more could be accomplished if the detail were enlarged and the field of investigation broadened to include fires of unknown origin, as well as some that were attributed to accidental causes. The squad was increased and now consists of one detective lieutenant, one detective sergeant, two detectives of the Police Department and one senior fire inspector in the Fire Marshal's office, who is sworn in as a police officer. These work in pairs. The teams alternate each week on night duty. They respond to all fires where evidence of incendiarism is found, as well as to all multiple alarm fires. The officer in charge of the squad is on call at all times. In event of an emergency, as many additional detectives and fire inspectors as the occasion warrants are assigned by the Chief of Detectives and Fire Marshal to assist the arson squad.

It was found that several fires attributed to unknown or accidental causes were actually of an incendiary origin. In addition, investigation of fires of this type proved to be an important step in fire prevention, as it frequently brought to light poor housekeeping conditions, which were corrected, thereby preventing further fires from this cause. Investigation of these fires is gradually educating the citizens to the fact that in the event of a fire of any consequence in their homes or other property, an investigator will soon appear on the scene to conduct an investigation.

As a result of this work, Detroit's incendiary fire loss for 1936 was $74,494.54, which is less than three per cent of their total fire loss, and is the lowest annual incendiary loss since the squad was organized. A total of 1,114 fires were investigated, of which 941 were found to be of accidental origin, 74 of unknown origin and 91 incendiary. The 91 incendiary fires constituted less than one per cent of the 14,223 fires which occurred during the year. The incendiary loss per capita was approximately four cents. Thirty-one persons were arrested and fifteen convictions for arson were obtained.

The squad maintains a complete photographic department. Each member is capable of taking, developing and printing all photographs necessary in any arson case. This not only eliminates delay in taking of photographs, but has a tendency to strengthen the officer's testimony, when exhibits that he has photographed are introduced as evidence.

In order that members of the Fire Department might know what is expected of them in the way of cooperation, a member of the arson squad lectured before all officers of the Fire Department at the Fire College. This has resulted in a careful search of debris at fires by members of the Fire Department for evidence of incendiarism and preservation of such evidence when found. Any unusually good work on the part of firemen in connection with arson cases is recognized by the Board of Fire Commissioners and is so entered on the member's record. The officer in charge of the squad has given a series of lectures to all detectives, patrolmen and ranking officers of the Police Department up to and including lieutenants.

In every case where the evidence warrants, the person suspected of arson is immediately taken into custody and held pending further investigation and the preparation of the case for prosecution. Where the evidence is not clear enough for such summary

This Fire Was Set Off by a Lighted Candle
The streamers were intended to direct the flames to the various pieces of furniture. The white stuff on the rug is the result of extinguishing the fire with foam.

action, the arson squad serves subpoenas upon the owners and upon their employees and witnesses whose knowledge of the facts might make their testimony of value, requiring such persons to appear on a date named at the office of the Fire Marshal where formal inquiry into the cause of the fire is conducted.

Any evidence pertaining to the case may be brought out at the formal inquiry. If in the opinion of the officer in charge of the squad, there is sufficient evidence to warrant prosecution, the case is laid before the prosecuting attorney, with the request that he ask for a warrant. If this is issued, members of the squad assigned to the case continue their investigation and prepare for the prosecutor all available evidence.

To further the reduction in incendiarism, cooperation of the various insurance organizations, the Fire Prevention Committee of the Board of Commerce, the Prosecuting Attorney's office, the Detroit Association of Credit Men and other interested organizations has been obtained. At the instigation of the arson squad the state legislature in 1927 passed an entirely new arson statute. The Detroit squad has cooperated with numerous other fire investigating agencies throughout the country, and has schooled members of the Fire and Police Departments in several cities in this work.

In a large southern city several years ago it was estimated that incendiary losses accounted for 55 per cent of the total fire loss. The high incendiary losses were deduced from the fact that 30 per cent of the fires were known to be incendiary and 49 per cent were classified as unknown. The city fire marshal reported that more than one-half of the unknown fires were obviously of incendiary origin, but could not be designated as such, because of lack of sufficient evidence which would stand in court.

A careful study of 40 incendiary fires in that city revealed that in 30 cases the insurance value was higher than the full value as estimated by the tax assessor. In 19 of the 30 cases the over-insurance value was 15 per cent, and in eight cases 50 per cent, as measured by the 100 per cent assessed valuation. The value of such studies must necessarily depend upon local regulations and conditions governing assessment policies.

In comparing the amount of insurance actually collected and the damage sustained in 27 incendiary fires, it was shown that the average loss paid on buildings and contents amounted to $743 more than the damage estimated by the city fire marshal, whose estimate of damage was generally liberal.

By comparison of insurance payments with building permits for repairs, the average profit on buildings alone appeared to be between $500 and $800. This figure, combined with the fire marshal's estimate of $430 average profit on contents, showed a profit of $900 to $1,200 per fire. These and other facts discovered in the survey led to the conclusion that, (1) the property was widely overinsured; (2) total loss fires were negligible; (3) profit from incendiary fires can be charged against poor adjusting and not to the valued policy law which required full payment of the face of the policy; (4) insurance agents were careless about inquiring into the moral hazard, (5) adjusters accorded little, if any, attention to evidence of arson; (6) skillful and effective, and often dangerous, salvage work of the Fire Department was often wasted because of lax adjusting; (7) incendiaries received larger proportional damages than did honest victims of fires.

The fact that this situation was recognized and a study was made of the problem, helped to control the crime of arson in that city.

Brosnan, Chief Extraordinary

(*Continued from page* 543)

the best, the telegraph alarm system covers the entire city, and firemen are put through rigorous training. The City Commission will elect no firemen not nominated by the Chief, and many members of the organization have years of service behind them.

What "Bill" Brosnan has demonstrated in Albany is that one man with unlimited enthusiam can galvanize an entire community into zealous cooperation. For 20 years he has been a crusader for fewer and less costly fires. Every year the first-grade children in the public schools are introduced to the fire-prevention program, which is as enthusiastically carried on today as it was two decades ago. And "Bill" Brosnan gives freely of his time to spreading the gospel of fire prevention in other communities—from Philadelphia to the Pacific, in Canada, Mexico, Cuba. He has participated in and conducted fire schools in half a dozen States.

Infectious enthusiasm is the impressive thing about this fire fighter, who believes in stopping fires before they start, and who, presently, will be asking the fire insurance companies why Albany's rates should not be still further reduced.

"A crank on the subject of not having fires" is Chief Brosnan. He admits that. But when a fire does break out, he is on the job with the courage and energy of a tiger.

Last February, flames broke out in an Albany cold storage plant. Brosnan led four men carrying a hose into a room—where, one by one, they collapsed due to carbon monoxide and chlorine. The men were dragged to an elevator where Brosnan, though choked by gas, managed to operate the lift. Eventually, the fire was extinguished with little loss other than by smoke. The Chief was on the job until the flames were under control, then submitted to being taken to a hospital.

That's "Bill" Brosnan . . . prouder of the fact that in the quarter of a century of his fire chieftainship no life has been lost and no citizen has been injured in an Albany fire, than he is of the bronze trophies his work has brought to his city or his medals. They would cover his chest—if he ever would wear them.

Cumberland County Firemen Meet

Chief W. Penn Toulson, Vineland, N. J., was elected President of the Cumberland County Firemen's Association at a meeting held at Fortescue, N. J. Ira Wood, Vineland, was elected Secretary. Before the meeting, there was a shore dinner arranged by the Fortescue Fire Company.

Exchange of Fire Pictures

Here are some more readers of FIRE ENGINEERING who would like to exchange fire pictures. Those interested should write directly to these men:

Chester Schroeck, 40 Early Pl., Buffalo, N. Y.

Boris Laiming, Room 310, Texaco Bldg., 929 South Parkway, Los Angeles, Cal.

L. N. Clark, 29 Richardson St., Newton, Mass.

Six Firemen Arrested for Arson

Six members of the volunteer Fire Department of Absecon, N. J., are being held on charges connected with alleged incendiary fires that occurred during the last two months.

In all, five fires were set, and in each case, there were traces of gasoline after the fire had been extinguished. Suspicion was aroused because of the prompt response of some of the firemen after the fire had been reported.

When arrested, the firemen admitted their part in the crime and said that they did it for the thrill of fighting a fire and for want of something to do. As a result of the arrests, Absecon is now without a garbage collector, for he was one of the five volunteers arrested.

Welcome, Chiefs, and may all your nozzles be BUCKEYES!

As you gather at the convention, we have two wishes for you:

First, may you have a very, very profitable as well as pleasant time.

Second, may you become better acquainted with Buckeye fire-fighting products. Don't fail to see the line of Buckeye Shut-Off Nozzles which *will not leak.*

Also be sure to see Buckeye Roto-Rays, Moto-Rays and Exhaust Whistles—a line of warning signals that "Clear the way by night or day" for your apparatus.

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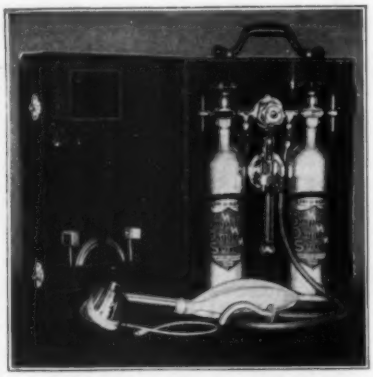

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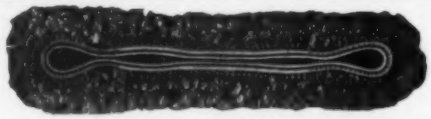
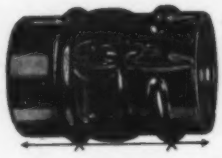


This is the new LIGHT WEIGHT
BI-LATERAL FIRE HOSE



This hose will stand 900 pounds pressure and weighs but 45 pounds to the section uncoupled.

Here's the new DROP-FORGED rocker lug coupling (not cast bronze), with the swivel-protecting feature.

This coupling will stand several expansions and can be used over and over again, saving your city at least 20c to 30c per foot on future hose purchases.

When in the market, let us show you that we can give you the best service obtainable for the least money.

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BRIDGEPORT, CONNECTICUT

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Definitions

Bleaching powder: A heavy white powder composed chiefly of calcium hypochloride (known also as chloride of lime). It gives off chlorine gas when heated, or mixed with acids.

Booster pump: A small unit pump usually employed for raising pressure, or developing pressure for small fire streams.

Brick veneer: One or two thicknesses of brick used in place of clapboards in frame constructions.

Bronze powders: Usually alloys of copper with zinc, tin or aluminum. They are made by pulverizing scrap metal under stamps, sifted, separated and polished in tumblers.

Burning point: The temperature at which a substance will take fire.

Questions

(To be answered in next issue)

1. What are the dangers in fighting a well advanced fire in (a) an electric power plant, (b) drug store? What precautions should be taken in each case?
2. What first aid treatment would you give a person suffering from (a) Smoke suffocation? (b) From electric shock?
3. Explain the difference between "dust explosion" and "spontaneous combustion?"

False and True Questions

(Is each question false or true? Answers in next issue)

4. T F—Charged lines, held in readiness squarely in front of the door to be opened, will eliminate all danger in connection with back draughts.
5. T F—Asbestos curtains will give theatre audiences absolute protection from any stage fire.
6. T F—In case of fire where carboys of acids or chemicals are broken, it is a good policy to absorb the liquids with sand, dirt, ashes, etc.
7. T F—Conflagration hazard can be minimized by erecting plants of good fire-resistive construction.
8. T F—In connection with Fire Department work, the word "Salvage" does not mean goods or merchandise saved from damage by fire and water.
9. T F—Kerosene engines are less hazardous than gasoline engines.
10. T F—Tip matches are more free from fire hazard than the so-called "safety" matches.
11. T F—Gas leaks should not be looked for with the aid of a lighted match.
12. T F—"Drafting" of water by a fire engine is commonly called "suction."
13. T F—Water thrown on some chemicals may cause fire, or create gas which will ignite or explode when brought in contact with flame.
14. T F—The nature of the cargo and how stowed greatly affect the method employed in fighting a fire in the ship hold.
15. T F—Back draughts usually occur after thorough ventilating has been done for a considerable period of time.
16. T F—The damage to expensive jewelry by smoke and water is not likely to be heavy.
17. T F—Water drains in cellars of mercantile establishments must be kept free of obstructions during and following fires in order to permit of their properly carrying off the water used in extinguishing the fire.
18. T F—Protection against fire from exposure is often overlooked by persons erecting comparatively good fire resisting buildings.
19. T F—There are 231 cubic inches in one U. S. gallon.
20. T F—Ventilators are present in practically every ship.
21. T F—There is a dust explosion hazard in connection with starch, spice, celluloid, powdered bronze and sugar.
22. T F—Indiscriminate opening of windows and doors at fires is not always advisable.

Completion Statements

23. The following three types of curtains are now found in theatres: ..... and ..... and .....
24. Interior inspection of a building usually starts in the .....
25. In ventilating it is advisable to ..... before building is opened up.
26. If a member of the department is asked to give information about a fire by an outside party, said member shall .....
27. Stairways, elevator shafts, light wells and dumbwaiters are commonly called ..... exposures.

Answer to Questions in Previous Issue

1. (a) Instructions in the use of pipes and nozzles would include: Proper types of nozzles to be used for different purposes, including open nozzles, shut-off nozzles, cellar and sub-cellar pipes, partition nozzles, play pipes with holders, chemical nozzles, and other special types of nozzles and pipes. Instruction would also include full data on the proper method of manipulating these various nozzles and pipes, and the results to be secured therefrom; proper pressure and placement.

(b) Instruction to a recruit in entering a building charged with smoke would be as follows: Keep clearly in mind the path which would be followed in getting out of the building in an emergency; in case of lights going out, follow line of hose to outside; if smoke is overbearing, keep near floor, and near nozzle, for in this way, if there is any air available, it will be secured; be wary of hanging wires, or other electrical equipment, and be on the alert for open trap doors or other openings through which a person may fall. Keep with the other members of the company, not straying away.

(c) Before hoisting lines to roof, make sure that connections are tightly made so that there will be no danger of them uncoupling; use hose roller, for hoisting, if available. If not available, then before employing line on roof, properly protect the line where it crosses the cornice, wall, etc., to prevent injury to hose when put under pressure. Make sure that there is sufficient hose on roof to afford mobility of line. If the line is stretched up a building so that more than one length is required to reach from the street to the roof, the usual practice is to support the hose with hose strap under each coupling. Such straps in turn should be attached to fire escapes, window braces, etc.

When the line is put in position make sure that it is properly secured with roof rope, fastened to pent house, or other secure foundation. If roof is ice-coated, or slippery, it may be necessary to secure the line so that there will be no danger of the nozzle getting away, or endangering the men. To do this, the nozzle may be fastened with rope to some secure support, or may be made safe by using dog chain on hose a short distance back of the nozzle.

(d) Make siamese connection near the fire rather than near the pumper. By this means the full benefit of the reduced friction loss in parallel lines will be secured. If siamese fitting without clapper valves is being employed, maintain pressures at pumps (if the layouts are similar) as nearly equal as possible.

Where siamese fittings with clapper valves are employed, the clapper valves will take care of burst lines, stalled pumper, or other troubles which might put one of the engines out of operation. Use siamese lines for long stretches, or where large streams are desired.

2. Insert one, or more, lengths in the line as conditions would require.

To do this, order water shut off at engine or hydrant. Order line broken on street, and after draining, insert desired number of lengths. Draw up the slack in the line so formed. After slack has reached the floor of operations, and nozzle is all ready for water, order water on at engine or hydrant.

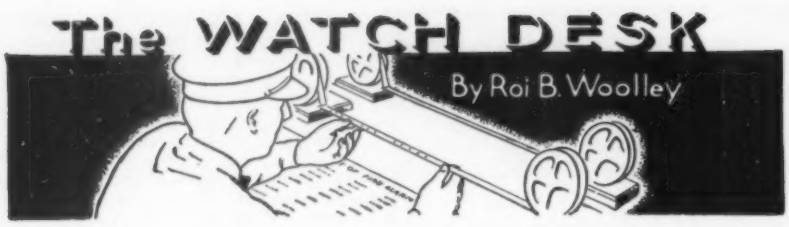
3. False; 4. False; 5. False; 6. False; 7. False; 8. False; 9. True; 10. False; 11. False; 12. True; 13. True; 14. False; 15. True; 16. False; 17. False; 18. True; 19. True; 20. True.

21. . . . automatic sprinklers . . . standpipe system.

22. . . . force. . . .

23. . . . burn. . . .

24. . . . eighth. . . .



Our inquiring reporter overhauls the firemanic news of the day.

Sit Down Strike?

Chief Oscar Grab, of New Rochelle (N. Y.), is wondering what next. At 7:35 a.m. one morning not long ago, Truck 1, New Rochelle F. D. was special called to home of Mrs. Elizabeth Harmon. Seems that Mrs. H., aged 22, had a sort of quarrel and had fled to bathroom and locked herself in. Well, the smoke eaters were commisioned to get her out. They arrived pronto, but as they were about to gain entrance to bathroom, Mrs. Harmon emerged saving much embarrassment all 'round. It's getting so firemen have to be diplomats as well as legal burglars, these days, said one of the blueshirts.

It Was the Humidity

September's humid heat spell was ushered out by a lightning storm that took heavy toll of New York farmers. At Phoenix, 11 head of cattle were killed, when lightning hit tree under which they took shelter. On shore of Cazenovia Lake, barn was struck, burned with loss of $15,000. While Alfred Kelso was milking on his farm, near Elbridge, lightning put end to milking, destroyed barn with loss of $7,500, but men saved the cattle. Fire, following the storm near Lisbon, wrecked nine buildings, with loss of $20,000. Near Schenectady a bolt bounced on three barns of the Charlton Industrial School, burned 'em to ground—loss about $9,000. Bolts hit other places, causing numerous fires with additional unrecorded loss. What's become of the old fashioned lightning-rod peddler?

200 Sue for Damages

Two hundred suits for damages on behalf of parents of victims of the New London (Texas) school disaster have been filed against the Parade Gasoline Company. Outcome of gas explosion that killed hundreds of children in "world's richest school."

Now You Tell One

An unnamed news-scout sent us this 'un. Sun's rays, focused through a glass jug of water, set fire to upholstery of Peter Hatcher's car (Clarksville. Tenn.). Hatcher grabbed jug, upended it and extinguished flames.

More Lightning Stories

Near Denton (Md.) farmer Robert Dulin, 25, was milking last of six cows when lightning struck barn, set it afire, killed the cow he was milking and left Dulin pinned beneath animal's dead weight. With flames roaring through frame structure, Dulin managed to wiggle one foot out of his shoe, pulled himself clear and fled. With wife. he returned and saved other five cows and three horses.

In 1935 lightning bolt started fire that destroyed Louis Ritter's barn, near Olean (N. Y.). That year his daughter died. Last October Ritter was kicked by horse and severely injured. Three months ago his son was struck by train and badly hurt. Last month lightning struck his new barn, destroying it and contents. No, nothing much has been happening to Ritter!

Traveling Death

A double trailer truck, hauling gasoline, was blown to pieces on River Road, Harrisburg (Pa.), killing the driver, injuring his assistant, setting fire to poles and trees along the highway. Driver, whose body was removed from wreckage an hour later, was John Tayvinsky, assistant was Jack Kilpatrick, both of Vineland (N. J.). A city fireman was burned about the face battling flames. Cause not determined.

Mascot Mourned

According to our Oneonta (N. Y.) newshawk, when "Gyp," giant collie mascot of the Oneonta F. D., died, uniformed firemen, whose pal he was for 12 years, acted as pallbearers at special funeral for him. After lying in state in specially made casket, where 300 Oneontans paid tribute, he was taken on pumper which he had ridden to fires for past 12 years, and buried with all honors. Somebody oughta give those laddies another canine pal, like the public spirited New Yorker did when he read of the passing of the mascot of Rescue 2 of the N. Y. F. D.—he sent 'em a pedigreed Dalmatian.

Month's "Tall Story"

A. Saldania was hauling a load of water melons from his farm near San Antonio (Tex.) to New Braunfels when the straw packing under the melons caught fire. Saldania broke open 12 melons, dug out contents and squeezed juice on the fire. Juices killed blaze. Saldania went on his way re-juicing. Juice so!

Near Cat-Astrophe

Knowing Chief Schoeck, Fourth Battallion, N. Y. F. D., we can believe this one. Seems that Rosey, pet pussy of Mrs. Lena Becker, Rivington Street, N. Y. C., reposed beneath electric ice box during hot weather. Suddenly, one day, Mrs. Becker heard wild cat-calls, wails, shrieks and whatnot! Investigating, she found kitchen full o' smoke. Meanwhile, passerby, seeing smudge, turned in alarm. Firemen under Chief Schoeck extinguished hot fire in cold box, whereupon inspection disclosed short circuit. Putting two-and-two together, Chief decided Rosey's tail musta got caught in mechanism that controlled fan which stopped motor causing it to overheat, resulting in short circuit and fire. Yes—Rosey isn't with us any more.

Nude Departure in Fire Fighting

Down at the Gibson Island Summer Colony, near Baltimore (Md.), residents turned out in bathing suits and less to help fight fire which destroyed $100,000 clubhouse on Chesapeake Bay. They managed to save some furnishings—and the lot. Club burned to ground. Interested spectator asked one of the near naked "volunteers" why the costume. "This ain't a nudist colony," was the reply, "it's the heat!"

According to Collier's

"The United States has close to 300,000 volunteer firemen in nearly 13,000 companies, and special schools in 42 states give fire-fighting instruction to about 35,000 students a year. In one state having 90 cities and towns, there is only one paid Fire Department."

This Month's Orchids

Orchids to locomotive engineer Patrick Bridge, Accrington, Blackburn, England, who, when his clothing was set afire by a back draught from the engine furnace, while his locomotive was racing along, kept his nerve and his hand on the throttle to speed train to next station five miles distant, while his fireman stove frantically to beat out flames with his hands. There being neither first aid nor relief driver at this station, Bridge continued to the next stop where, suffering intense agony with clothes still smouldering, he was rushed to hospital. Reported later (unconfirmed) that he died. His fireman, also deserving orchids, was Frank Salisbury, of same town.

Firemen Went Nuts!

False alarms which nightly interrupted the slumber of Reading (Mass.) residents (not to speak of firemen), were finally traced to gray squirrels that invaded a firehouse roof and gnawed wires, causing short circuits. Don't tell us they were trying to get at the firemen!

Note to contributors: If you do not read your news contribution in the next issue of FIRE ENGINEERING don't despair—if it's suitable it will ultimately find its way into print.

Editor, Watch Desk.

WHAT DO YOU KNOW?

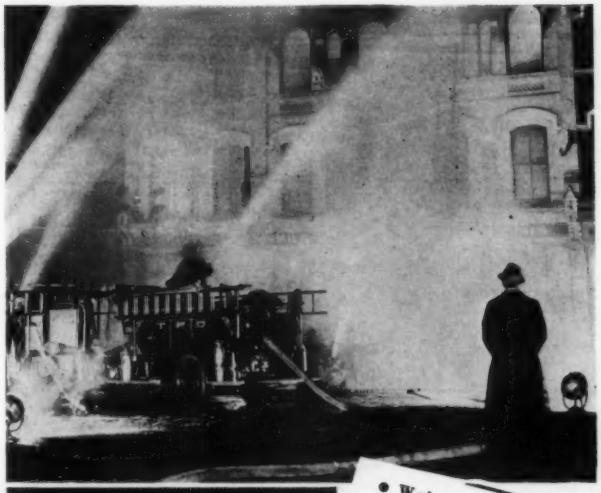
The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire fighting, etc. Address "Editor, Watch Desk."

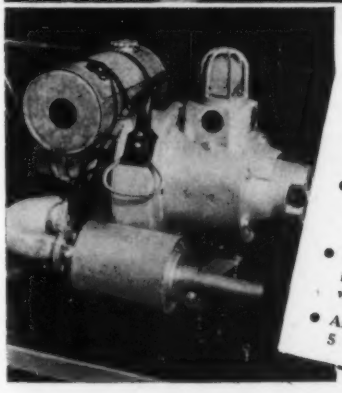
Now...

BETTER FLOODLIGHTING COSTS LESS

Homelite portable floodlighting not only reduces the hazards of night fires — speeds work — protects your men. It gives you the most flexible type of floodlighting at the lowest possible cost.

The sturdy lightweight generator is easily carried by one man — quickly set up wherever needed. Sure-fire starting is quick — operation is dependable, steady, automatic in any weather. Yet Homelite offers these time and money saving advantages at a small fraction of the cost of a floodlighting truck. Fire departments the country over use Homelites for every kind of night emergency. Get the whole story. Write for bulletin.





- Weighs 89 pounds complete with built-in gasoline engine.
- One man carries it anywhere—easily.
- Generates 1250 watts—enough for several floodlights.
- Air-cooled engine won't flood, freeze, or overheat.
- Entire unit is water-proof, dust-proof, weather-proof.
- Anyone starts it in 5 to 15 seconds.

HOMELITE CORPORATION
910 RIVERDALE AVENUE, PORT CHESTER, N. Y.

BARTON FIRE PUMPS

Greater ECONOMY *Better* PERFORMANCE

Barton Pumps have revolutionized fire fighting. They have made it possible for small towns and villages to have first-class pumping apparatus—pumpers equal in speed, performance and dependability to anything found in the large cities. ***And at a price practically any community can afford.***

First, the Barton Fire Pump itself is not expensive. By advanced engineering we have accomplished wonders at low cost.

Second, a Barton Pump requires no special, high-priced fire truck to give you all the water and all the pressure you want. You can select any low-cost, standard commercial chassis, and have a real job that your whole community will be proud to own. With our unique front-mounting, a Barton Pump can be attached to your truck in a few hours' time—not a single chassis change required. ***You save hundreds of dollars right there.***

WRITE FOR COMPLETE INFORMATION

Mr. Chief, investigate the Barton *first.* Write us for FREE Bulletin 75, which gives the whole story on Barton Fire Pumps in various sizes to meet every need and pocketbook.

AMERICAN-MARSH PUMPS, INC.
Centrifugal, Turbine, Steam, and Power Pumps
BATTLE CREEK . . . . MICHIGAN

Congratulations

FIRE ENGINEERING

On Your

60th ANNIVERSARY

FIREMEN'S BADGES.
Best, Cheapest and Handsomest.
Illustrated Price List, FREE.
C. G. BRAXMAR & CO.
Salesroom, 110 Liberty St. New York.

Reproduction of Original Advertisement published on August 30, 1879.

58 YEARS AGO

WE PUBLISHED THE ABOVE ADVERTISEMENT IN YOUR MAGAZINE!

And in the long intervening period the C. G. Braxmar Company has grown steadily to reach the high position for Quality, Character and Service which it holds today.

For 58 years we have supplied the fire fighters of America with the finest badges they ever wore. And many of these firemen have worn our badges over 35 years!

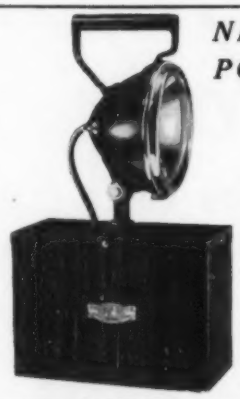
Only the finest materials and skilled craftsmanship go into every Braxmar Badge. And at their very reasonable prices they are an investment you will always be proud of.

THE C. G. BRAXMAR CO., INC.

242 West 55th Street, New York City

BRAXMAR BADGES

Standard for Over Fifty-Eight Years



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THROWS ¾ - MILE BEAM OF 300,000 CANDLEPOWER

Built for years of hard usage, this great Portable Light weighs only 15 lbs. Uses standard 6-8-volt bulb, operates on standard 9-volt dry cell battery. Unequalled at its low price.

Send for full details.

HARRIS BROS. MFG. CO.

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AMERICAN RAINCOAT COMPANY

QUICK-HITCH SUITS

GUARANTEED PRODUCTS

Warm - Comfortable - Long-wearing **Made To Order**

Material and workmanship guaranteed. Durable special designed harness snaps for hard wear, on all coats.

Send order to—

AMERICAN RAINCOAT CO.

McHale & Plotke, *Manufacturers*

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FLOOD LIGHTING

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ELECTRICAL APPARATUS

Supplied for

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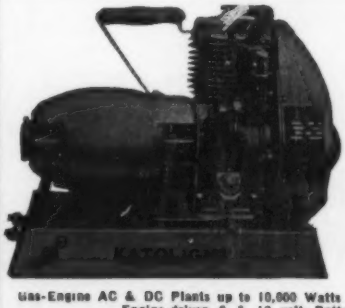
PUBLIC EMERGENCY USE

CLAIR EQUIPMENT CORPORATION

420 LEXINGTON AVENUE - NEW YORK CITY

JOHN G. CLENDENIN, President and Chief Engineer



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Anywhere

For Operating

FLOOD LIGHTS, PORTABLE SAWS, DRILLS, etc.

350-Watt AC Katolight, Jr., $89.60

Fully Portable, Only 55 pounds

550-Watt AC Plant, $130.00
Only 84 pounds

Gas-Engine AC & DC Plants up to 10,000 Watts AC & DC Generators
Engine-driven 6 & 12 volt Battery Chargers

Write for circulars and Discounts

KATO ENGINEERING COMPANY

MANKATO, MINNESOTA, U. S. A.

A Fire Tug for Wheeling

Wheeling, W. Va., has just placed in service a small fire tug built by Hanley Engineering Service. It is capable of making ten miles an hour. It is 22 feet in length and eight feet wide, and draws twenty inches of water. The entire hull is made of one-eighth inch thick steel plate and is electric welded. The hull is designed similar to those of the U. S. Navy's rescue launches.

It has no propeller or rudder, being driven and steered entirely by water-power from the power from the powerful pumps. This gives the tug the opportunity to operate freely in flood districts without having a rudder and propeller entangled in wires and other obstacles usually found in flood water. The propulsion jets are so constructed into the rear of the boat that it is virtually impossible to injure them if the boat should be struck by an underwater object.

The main driving jet is at the rear of the boat and is mounted on a swivel and controlled by the steering wheel for ordinary navigation. Another jet is mounted under the prow of the craft and is used for a reverse or brake. There are two other jets on each side of the boat—one fore and one aft. All six of these jets are controlled individually and enable the craft to travel forward, backward or to either side. The side jets can also be used to hold the tug up against a dock or building without the use of ropes.

On the inside of the boat are two valves, either of which may be opened to pump water out of the craft itself in case it should be rammed. These two valves can handle enough water to keep ahead of most any hole short of total wreckage that might be punched in the hull.

The pump is equipped with two suction lines—either of which is more than sufficient to supply water for the pump. Another suction line in the boat may be used to pump out other boats which may be in trouble along the river.

The craft is equipped with a swivel deck gun on the aft deck capable of delivering 600 gallons of water per minute and four hose lines in the forward cockpit. With all the lines in use the boat will deliver over 800 gallons of water per minute.

The craft also carries a portable pump capable of pumping 50 gallons of water a minute.

The craft can be manned by a crew of three and can be navigated in as little as twenty inches of water and is so designed that it can be turned around in its own length.

For equipment the boat has two searchlights, siren, complete running lights, as required by the river traffic regulations, an inhalator, three new type gas masks, salvage covers, a specially built ladder, 400 feet of hose, axes, first aid kit, hand extinguishers, 300 feet of rope, life jackets for six, ring buoys, and it is tentatively planned to equip the craft with a two-way radio set so that it may be tuned to the Wheeling police short wave station and add to its value in emergencies.

The fire tug is carried on a trailer, which bears it to the point where it is to be launched in the river. It will be kept in the central fire station. The trailer is so constructed that the boat can be launched as well as taken out of the water without delay.

Babson Made Honorary Chief

Roger W. Babson, head of the Babson Statistical Organization, of Wellesley, Mass., was recently presented with a badge of honorary membership in the Wellesley Fire Department. He frequently attends the monthly meetings of the Fire Chiefs' Club of Massachusetts and was a speaker at the convention of the New England Association of Fire Chiefs last June. Mr. Babson sailed for Europe recently on the steamship "Berengaria." He will visit London, Brussels, Amsterdam, Berlin, Paris, and Rome and expects to visit fire brigade headquarters in these cities. He was accompanied on the trip by Leonard Spangenburg, of the Babson organization, and was furnished with letters of introduction to foreign officials signed by President Roosevelt and Secretary of State Cordell Hull.

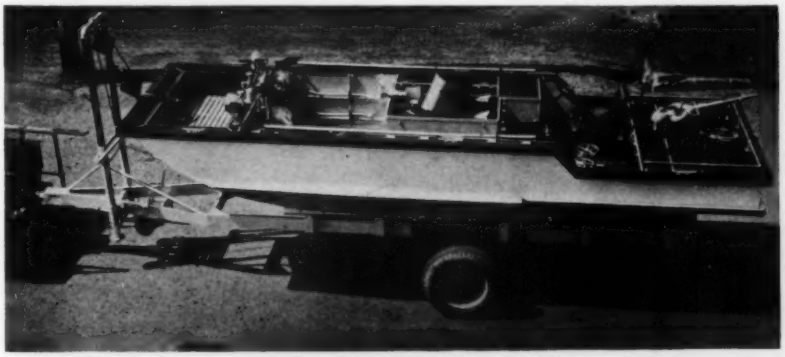
HARRY BELKNAP.

Aerial Ladder Breaks at Fire

An old wooden aerial ladder that had been in service at Norfolk, Va., since 1921, snapped in two, as it was being lowered after firemen had extinguished a $500 fire at the Hotel Lee. It narrowly missed crashing into plate glass windows at the street level.

Chief R. S. Baughan said that he had asked for a new aerial ladder about three months ago but had heard nothing about the recommendation. He said, "A wooden ladder cannot be expected to hold up always."

Only one person was hurt. He received a cut over an eye by a flying splinter.



Wheeling's New Fire Boat

Fire Wardens Honored

A demonstration of forest fire pumps, spray nozzles, and flood lighting units took place in Wakefield Square on the evening of September 16 prior to the meeting of the Middlesex County, Mass., Forest Fire Wardens' Association in the town hall.

The following units took part in the show: Wakefield aerial ladder and squad wagon, Stoneham motor pumper and lighting unit, Lexington lighting unit, Melrose lighting unit, North Reading pumper and lighting unit, Reading pumper and forest fire truck, Engines 1 and 4, Bedford forest fire wagon, and steam fire engine from Reading.

John Campbell, Winchester, presided at the meeting. A cup was presented to Chief Frank Tracy, Woburn; Chief George L. Johnson, Waltham; and ex-Chief Walter Skelton, Burlington, the three oldest Forest Wardens in point of service.

HARRY BELKNAP.

Fire Drill Proves Real

To the nine-hundred children of a school in Battle Creek, Mich., it was just a fire drill. Out marched the children in orderly fashion in accordance with previous instructions. They lined up not far from the building, after they had emerged, to await the all-back signal.

In the distance could be heard the sound of fire apparatus. The children were delighted. They thought that it was an added bit of realism. But the firemen knew otherwise. They entered with their chemical extinguishers and put out a fire caused by defective electrical insulation.

It Just Didn't Give a Toot

Firemen of Haledon, N. J., have a licensed bar in the basement of the firehouse. Here one can purchase beer. But in order for the beer to flow properly, the supply must be provided with air. The trouble started, however, when the air supply for the fire whistle was tapped to serve the beer line.

Feeble toots on the fire whistle caused the local people to wonder what was wrong. Later it was found that a copper tube connected to the compressed air tank with the beer pump system. Air that should have been conserved for fire use, was being used for the bar.

Now the whistle is quite sharp, but the beer is a little flat.

Courtesy Pays—Even When Fighting Fires

Chief Guy Spencer, Walnut Creek, Cal., responded to a small brush fire. Also present was Chief A. M. Fichtenmueller of Danville.

Said Chief Fichtenmueller to Chief Spencer:

"The fire isn't on our side of the line, but we thought we would help you."

Said Chief Spencer to Chief Fichtenmueller:

"I'm sure glad you did, it's on your side now."

The fire burnt 150 acres of grass and some fenceline, but did not do very much damage.

Manufacturers' Announcements

Ahrens-Fox Announces Changes

The Ahrens-Fox Fire Engine Company, Cincinnati, has announced the promotion of Gordon H. Litchfield, of the Pittsburgh district office, to be New England Manager, with headquarters at the District Office in Taunton, Mass. Mr. Litchfield succeeds Harry Carlow, who has resigned to devote all of his time to his extensive financial interests.

Mr. Litchfield is succeeded as District Manager at Pittsburgh by R. T. Smith, formerly Manager of the office at Toledo, Ohio.

Full Vision Gas Mask

An illustrated folder, describing the Acme full vision gas mask, has been issued by Acme Protection Equipment Company, Koppers Building, Pittsburgh, Pa. The feature of the mask are the moulded face piece, full vision, easy wearing head harness, automatic check valves to prevent exhaled air from backing up. The masks are available in two models, and when equipped with Acme canisters, afford protection against a number of gases.

Booklet on Sirens

Bulletin No. 691 is being distributed by the Sterling Siren Fire Alarm Company, Rochester, N. Y., to describe their line of sirens. The line includes a general alarm siren, code siren, apparatus siren, and the Sterling street box system.

CO_2 Fire Protection

An eight-page booklet, "Lux Makes the Difference," has been issued by Walter Kidde & Co., to show the value of built-in carbon dioxide fire protection for industrial plants and electrical properties.

Vapor Generator

A folder has been issued by Herbert Garnett, Maumee, Ohio, and describes the new Garnett vapor generator for producing vapor at the end of a fire line. It is claimed that a water blanket can be formed having an effective range of sixty by twenty feet.

The generator is made in three sizes: No. 1 for use in ½-inch smooth bore booster line service; No. 2 for use in ¾-inch smooth bore leader line hose nozzles; No. 3 for use in 1⅛-inch smooth bore nozzles as used with 2½-inch hose lines.

The water discharge from nozzles with the generator is about that of a nozzle ⅛-inch less in diameter.

Forged Rocker Lug Coupling Tested by Underwriters

The forged rocker lug coupling manufactured by the Bi-Lateral Fire Hose Company, Chicago, Ill., for 2½-inch, cotton rubber lined hose was tested early this year by the Underwriters' Laboratories, Inc., of Chicago. Report on the test was recently released by the Laboratories.

The couplings submitted for tests weighed as follows:

Male End	2 pounds 11 ounces
Female End	4 pounds 0 ounces

The total weight of the coupling was 6 pounds, 11 ounces. In the hydrostatic pressure test the coupling was submitted to 300 pounds per square inch and showed no evidence of leakage or sweating.

In the attachment test, the coupling showed no measurable signs of change.

In the strength test, after the coupling had been attached to the hose length, using three expansion rings for the purpose, the hose length was subjected to a hydrostatic pressure test. In this test, the pressure was increased until failure of the hose occurred.

The hose length with the attached coupling was subject to a maximum pressure of 825 pounds per square inch, at which pressure the hose burst. Examination of the coupling parts disclosed no evidence of distortion or cracking of the coupling material.

An analysis by the Laboratories of the material in the coupling showed the following:

Copper	57.7%
Lead	1.7%

The season cracking test developed no questionable features. The report states: The chemical analysis of this material shows that it is of a different composition than that specified in the Laboratories' Standard for hose couplings, but, on account of the forged construction of the couplings, the material has been considered acceptable for the purpose.

Charcoal Respirator

Dupor, a charcoal respirator, is being manufactured by H. S. Cover, South Bend, Ind. The respirator has large diameter dense wool, felt filter pads placed over activated charcoal. The device weighs eight ounces and folds to ordinary pocket size.

Vapor Nozzle

An illustrated folder has been issued by the Akron Brass Manufacturing Company, Wooster, Ohio, to describe the Akr-O-Mist, a double mist nozzle. The nozzle is gradually adjustable by rotating from a complete shut-off through all the degrees of mist, and from a full wide 160 degrees double cone down to a concentrated solid stream, and then to a single penetrating cone of mist. The nozzle will be exhibited at the I.A.F.C. convention. Literature wil be sent free on request.

New Peerless Hose Clamp

The Kellam Manufacturing Company, P. O. Box 729, Atlanta, Ga., announces the new Type E Peerless hose clamp, which is the outgrowth of twenty-six years' manufacture of Peerless clamps.

Like its predecessor, the new Type E clamp is a time and labor saver when changing from hand stream to cellar pipe, deluge set or water tower or when siamesing or lengthening lines without shutting off line at pumper.

The new clamp has many improvements over the old one, not the least of which is an automatic lock, which holds the jaws of the clamp firmly together when a line is being shut off. Greater strength is another improvement.

Interstate Company Moves to Fargo

The Interstate Fire Equipment Company, formerly of Aberdeen, S. D., recently moved its plant to larger quarters at Fargo, N. D.

The firm, which is under the management of G. A. Duffner, has been engaged in the manufacture of fire apparatus for several years and its field of operation has been largely in the northwest section of the country. Among recent sales was a 500 gallon pumper for Chamberlain, S. D.

With respect to the fire protection of municipalities, the company states:

"Recent surveys show that the average city Fire Department is deplorably under-equipped and that a large percentage of the equipment in service is obsolete and unreliable. This condition makes it not only impracticable for the average town Fire Department to attempt to respond to country call, because in the first place it would leave the town unprotected while away with the apparatus, and in the second place the average town fire department does not have a fire truck suitably equipped for community service."

Fred Bensen Goes with Mack

The appointment of Fred Bensen to the fire apparatus sales force of Mack Trucks, Inc., was recently announced by Chris Ball, Sales Manager of the company's Fire Apparatus Division.

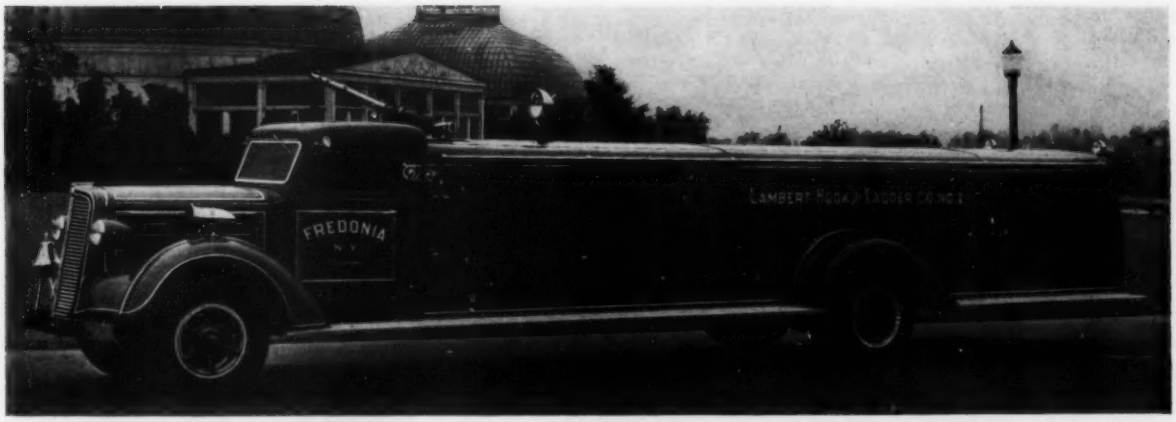
Mr. Bensen, who will cover a territory adjacent to New York City, including northern New Jersey and Westchester County, is widely known among fire officials in the east. Until a few months ago he was in charge of the New York office of the Ahrens-Fox Fire Engine Company, prior to which he was for many years with the Eureka Fire Hose Company.

Fred Bensen

The addition of Mr. Bensen to the Mack staff is one step in an aggressive sales expansion program that Mr. Ball is launching.

Jack Cosgrove Recovers

The many friends of Jack Cosgrove, Pacific Coast Manager for the Fabric Fire Hose Company, with headquarters 211-212 Financial Center Building, Oakland, Cal., will be pleased to know that Jack has recovered from his recent injury that required his hospitalization for over sixty days. He is again in the field offering wax and gum treated fire hose, manufactured by the Fabric Fire Hose Company of Sandy Hook, Conn., to his clientele of the Pacific Coast, covering the states of California, Arizona, Colorado, Nevada, Utah, Idaho, Wyoming, Washington, Oregon and Alaska.



CAYASLER FIRE APPARATUS

"America's First Enclosed City Service Truck"

CUSTOM BUILT TO MEET EACH INDIVIDUAL NEED!

AVAILABLE to every Fire Chief is the long experience of Cayasler in building apparatus to fulfill the needs of each particular fire department, large or small. Every Cayasler apparatus is custom-built, embodying the highest standards in materials, design and workmanship. Built for the toughest service, they are thoroughly dependable, durable and efficient. And their moderate cost is a real investment in Economy.

Full information gladly sent on request at no obligation.

THE CAYASLER MANUFACTURING CORPORATION

1546 WILLIAM STREET, BUFFALO, N. Y.

FIRE CHIEFS PREFER IT

There's never a costly minute lost from fire control because of jammed threads, tangled chains or weak flow when firemen hook up to a MUELLER-COLUMBIAN Improved hydrant.

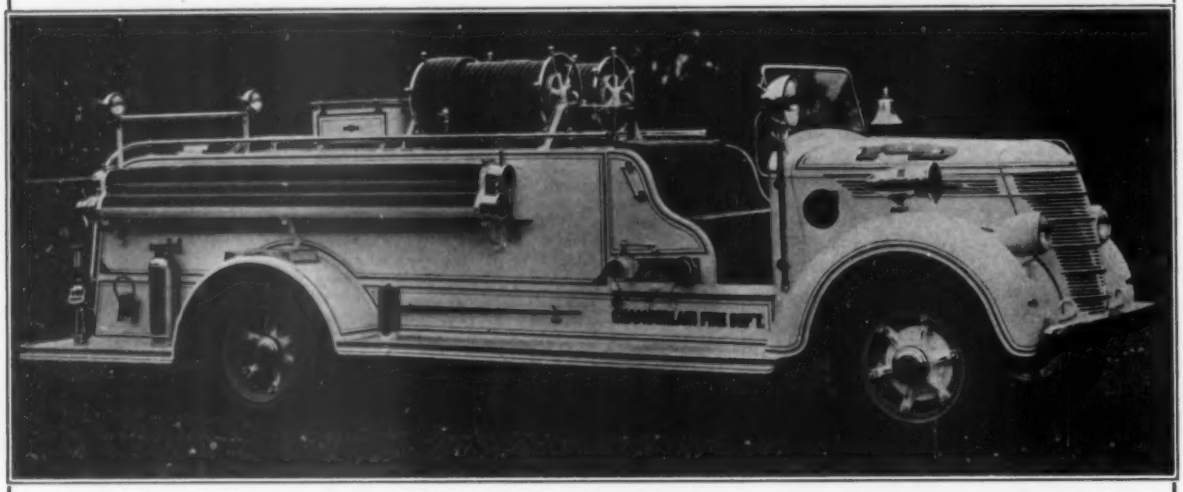
The self-oiling top keeps threads lubricated for easy, instant turning. Extra long, twisted-link chains give plenty of room for quick, unhindered removal of nozzle caps. A clear water passage with sweeping nozzle curves assures a full flow; positive drain mechanism prevents any possibility of freezing.

MUELLER-COLUMBIAN is the firemen's favorite. It performs EASIER, with no time lost!

MUELLER CO.

CHATTANOOGA, TENNESSEE

—EFFICIENCY—POWER—SPEED—ENDURANCE—



West Meets East—

PREMIER PUMPERS—mounted on Commercial truck chassis sold and serviced by your local dealer, meet the most exacting test requirements of the National Board of Fire Underwriters.

Ours is a service worthy of your earnest consideration—write us—

INTERSTATE FIRE EQUIPMENT COMPANY
BUILDERS OF FIRE APPARATUS OF QUALITY
FARGO, NORTH DAKOTA

Highly Endorsed by Fire Chiefs Everywhere!

Chief Henry of Lexington, Ky. writes:

"The 'Fire Chief's Handbook' is the work of one of vast experience. Every fireman should have a copy for study and reference."

Chief Gambrell of Dallas, Texas writes:

"It is very instructive and helpful. We find this book very convenient to refer to in our school work."

THE FIRE CHIEF'S HANDBOOK

By FRED SHEPPERD

In Collaboration with the EDUCATIONAL COMMITTEE *of the* INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

THERE have been books on fire-fighting, but never anything so complete and authoritative as the "Fire Chief's Handbook." This book, a gold-mine of practical, helpful data, gives a reliable, up-to-the-minute answer to almost every question that might come up in modern fire-fighting practice.

For progressive fire chiefs, interested in up-to-date fire fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations. In fact, it is a book every fighter needs and ought to have. *The Edition is Limited—Better Order Your Copy Today.*

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$4.00 *per copy postpaid*

If the book isn't what you expected, return it within 5 days and your money will gladly be refunded.

Here are some of the subjects covered:

- FIRE DEPARTMENT TOOLS AND EQUIPMENT
- MOTOR FIRE APPARATUS PUMPS
- FIRE EXTINGUISHERS AND THEIR USE
- FIRE STREAMS
- FIRE-FIGHTING METHODS
- FIRE STATION DESIGN
- TRAINING OF FIREMEN
- SALVAGE OPERATIONS
- BUILDING INSPECTION
- VENTILATION AT FIRES
- CARE OF FIRE HOSE
- CHEMISTRY OF FIRE
- HEAT AND ITS ACTION
- DRILL TOWERS
- DRILLS AND EVOLUTIONS
- FORCIBLE ENTRY
- EXPOSURES
- STANDPIPE WORK AT FIRES

—and Many Other Things

New Fire Alarm Equipment for Sao Paulo

The city of Sao Paulo, Brazil, has recently placed an order with The Gamewell Company, Newton Upper Falls, Massachusetts, for a large extension to the municipal fire alarm system. The new equipment will consist of three-fold fire alarm boxes, type U-1000 pedestals, time stamps, recording devices, and three complete Fire Department sub-station equipments.

Inside View of the Fire Alarm Headquarters

The present fire alarm and police signaling systems are of Gamewell manufacture and were originally installed in 1910, under the supervision of Charles Berst, now District Sales Manager for Gamewell in the Southern States, with headquarters in Atlanta, Ga. All of the equipment installed in 1910 is still in service. The boxes are of the successive type, with lettering in Portuguese, as shown in the accompanying illustration.

The central fire alarm station is of the manually supervised and operated type, equipped with sixteen box circuits, four primary alarm circuits, and four secondary alarm circuits. The circuits, in addition to being of the closed metallic type, under constant test for continuity, are also tested automatically at twenty-minute intervals for grounds.

The Gamewell Company is represented in Sao Paulo by Mario Barros do Amaral, through whom the negotiations leading to the recent sale were successfully conducted.

Fire Alarm Box

The Cover Dual Signal Systems

One of the recent developments in fire alarm signalling is the Cover Dual Signal System. It comprises three principal units, the street box, the central office equipment and the station house equipment.

As its name implies, it serves the dual function of transmitting both fire and police calls, as well as any and all other calls of an emergency nature. Each street box contains a combination signal unit located within a single housing.

The system employs the principle of a separate pair of wires direct to each box, which means that but one box or one circuit is affected in case of trouble.

The essential features of the box system are a door switch, which automatically signals central office operator indicating an incoming call when the door is opened; A flashing bull's eye, which serves as visual signal for summoning officers or citizens in emergencies, and indicates the box in operation to fire companies or any one else; A siren, mounted within the upper part of the box, which is used for summoning police, clearing traffic for fire or police apparatus, drawing a cordon of police around any specific location, or any other purpose desired by the municipality; A talk-back loudspeaker, which is mounted in the central part of the box, which provides a two-way audible conversation (by means of microphone and loudspeaker) during any emergency call, employing tubeless amplification on individual circuits to central office; Manual and recording register for fire, for manual transmission of alarms by persons afflicted with dumbness, fright, or any other cause affecting speech, and for recording the number and location from which the alarm originated; Manual and recording register for police, performing the same duties as the manual for recording register or fire; Private or secret communicating telephone or for routine police reporting, special or secret police instructions, or for communication of any authorized city employee, provided with keys.

Equipment included in central set-up are trunk line connections to public telephone; individual circuits to police and fire lines to each street box; lines to station houses and private lines to officials; operators microphone; registers for incoming fire and police calls; public telephone equipment; cord connections; fire call lights; police or private call lights; individual strike designation key (automatically registers street box number from which it originated as well as the location of box); trouble lamp and buzzer.

The equipment in each station consists of the following: incoming loudspeaker (for transmitting calls from central station); recording register for strike keys; polarized relays connected to central office board; answering monophone; storage compartments for taps, records, etc.; switch controlling large gong, and switch controlling loud speaker.

In the operation of the system, when the person needing help opens the door of the box, a signal is transmitted to central office. As each box is on a separate circuit, the location of the box is indicated.

The operator at central office can talk directly to the person sending in the alarm, through the agency of the microphone at the box. The party want-

John J. Bailey
President, Electric Controller Corporation

B. E. Cover, Sr.
Chief Engineer, Electric Controller Corporation

ing help talks directly into the box and a two-way conversation is thereby provided.

If the person cannot talk, or does not understand what is required of him, and he needs fire apparatus, a small key is turned in the box, beneath which is marked the word "fire" and a signal is thereupon sent over the wires to the central station.

Likewise, if police help is needed, a police key or switch, is provided in the box, which is operated likewise.

In the event that central station wants to check up on a call, a patrolman in the neighborhood can be called by flashing the light.

In this way it is expected that a great number of false alarms may be avoided. The Cover Dual System is manufactured by the Electric Controller Corporation, of Chicago, Ill. John J. Bailey is President and the Chief Engineer is B. E. Cover, who was identified with the fire alarm telegraph system of Chicago for many years.

First Fully Enclosed Ladder Truck

Herewith is illustrated the first enclosed city service ladder truck built in America, and probably in the world. It was recently delivered to the City of Fredonia, and was built by the Cayasler Manufacturing Corporation, of Buffalo.

The ladder equipment consists of all aluminum ladders; one three-piece 65-foot extension; one 35-foot extension, one 35-foot extension; one 22-foot wall ladder, one 22-foot roof ladder; one 16-foot roof ladder; one 12-foot roof; and one 16-foot inside extension ladder. The 65 and 45-foot ladders are nested together in a single bank formation and the balance of the ladders are in double bank. The three pike poles of various lengths are also of aluminum.

Directly under the double bank of ladders, between the running board and the underside of double bank, are compartments of various sizes, 12 inches wide and approximately 30 inches high for storage of tools, coats, boots, extinguishers, pitchforks, door opener, wire cutter, electric lanterns, etc. The ends of the short ladders in the upper tier are kept flush with the rear and this gives room for another large compartment, over a foot high, allowing sufficient space for carrying a quarter fold life net. This space is accessible through three doors, one of which is shown in the illustration. Directly to the rear of the cab, a compartment is built for housing a Homelite outfit, with doors on each side allowing removal from either side. All in all, there are approximately 160 cubic feet of storage space for supplies, all compartments being watertight. All of the compartments are fitted with small lights which give good illumination at night.

Directly to the rear of the compartment for the lighting plant, there is a 100 gallon copper booster tank with small door opening into this on the top. Booster pump (probably Barton) is to be mounted later.

Under the rear of the frame, a sliding hose body has been built, of sufficient size to carry 400 feet of 2½-inch double jacket hose. Legs are provided to support this body when withdrawn for loading.

The deck gun shown in the illustration is temporarily placed, and provision has been made for the mounting of the gun permanently at a later date.

The wheelbase of the chassis is 250 inches. The overall length of the truck is 36 feet.

First Fully Enclosed Ladder Truck Built in America

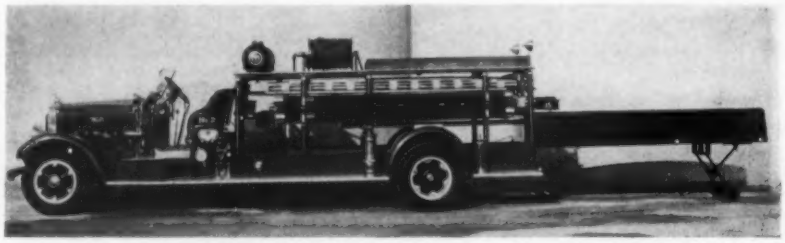
Apparatus With Extending Hose Body

A new idea in fire apparatus design has been incorporated in the design of fire unit delivered to San Marino, Cal. It is a 600-gallon baby quadruple Mack pumper, built in accordance with specifications prepared by Chief Copley.

In this design, the hose body slides out as shown in the photograph.

From this design, the company patterned another unit for delivery to Montecito. This Mack unit carries a 750-gallon pumper, two 35-foot, 3-section aluminum ladders and one 24-foot aluminum extension two-piece, plus a 12-foot aluminum roof ladder.

An exact duplicate of this unit has been ordered by Palm Springs, Cal.



Baby Quadruple Mack Apparatus Delivered to San Marino, Cal.

Chicago Buys New Fire Apparatus

Chicago's City Council has approved the recommendations of Fire Commissioner Michael J. Corrigan that contracts for five 1,500 gallon pumpers be awarded to the Mack International Truck Company, for a 1,000 gallon pumper to the Peter Pirsch & Sons Company and for six hook and ladder tractors to the White Truck Company.

This equipment will be the first purchased by Chicago with cabs to protect the firemen. If the enclosed apparatus proves satisfactory all future purchases will be of the sedan or cab type, Commissioner Corrigan said.

ROBERT GREENOCK.

New House for New Canaan, Conn.

Work has begun on the construction of the new fire station for the town of New Canaan, Conn. The building calls for a basement with a recreation room, dining room, kitchen, boiler room and storage room. The main floor will provide room for four pieces of apparatus with four separate entrances, a receiving office and work room.

The second floor will have a reading room, commissioners' office and a large room to hold meetings of the New Canaan fire company. All floors will be ventilated by exhaust fans. The building will be of brick construction on Colonial lines of architecture. The firm of Walter B. Kirby and Harry C. Starry, architects of New Canaan, drew the plans for the new station.

THOMAS F. MAGNER.

33rd Degree for Paxton Mendelssohn

Paxton Mendelssohn, nationally known fire fan of Detroit, Mich., has been awarded the Thirty-third Degree, the highest vested honors of Masonry, at a meeting of the Supreme Council for the Northern Masonic Jurisdiction of the United States. The degree was awarded on September 29 in the auditorium of the Scottish Rite Cathedral at Milwaukee.

Wyoming Firemen Convention Results

At the eleventh annual convention of the Wyoming State Firemen's Association, held at Evanston, Wyo., the following officers were elected: A. J. Paten, Lusk, President; C. K. Coltrain, Casper, First Vice-President; D. A. Davis, Evanston, Second Vice-President; G. A. Pauley, Basin, Third Vice-President; Mat Leroy, Rawlins, Fourth Vice-President; Mel Grau, Cheyenne, Secretary, and Carl Gugenheim, Thermopolis, Treasurer.

Cheyenne was named as the 1938 meeting place.

JIM SAYS:—
Well Chief, I took your advice and bought a "SPECIAL-BUNKING OUTFIT"!

CHIEF SAYS:—

Fine Jim, I congratulate you on your good judgment. I wear that outfit myself, and now you have the BEST-by-TEST

BUNKER SUIT

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Catalogue giving full details covering complete line, fabric and rubber surface suits, boots, etc., will be gladly sent on request.

CHIEFS and MEN agree that the
SPECIAL BRAND BUNKER SUITS
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Your health never in jeopardy. The outer surface garments, of two distinct layers of Drill Cloth, snag proof and acid resisting, together with rubber impregnated between will give assured protection from water; the snapped in all-wool detachable lining—a patented feature—keeps you sufficiently warm and dry; the 5-inch width collar covers your face and breaks the wind, the knitted wristlets keeps your arms snug and water out, and the double set of fasteners are pull proof, closing the fly-front securely. All-in-all, the perfect year around garment, protecting your body under all conditions. Order early.

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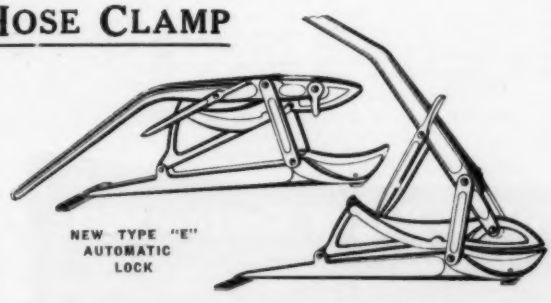

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UNION MADE
Signal FIREMEN'S UNIFORM SHIRTS
Styled Right—Priced Right

Cut full and roomy. Guaranteed not to shrink. Choice of medium blue, heavy fine yarn, fast-color sanforized chambray or navy blue tub-test percale. Two popular styles, Soft Collar Attached or Neckband with two Detachable Collars.

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To Fire Chiefs

If you are interested in a standardized uniform shirt for your department and your dealer cannot supply Signals, write us. Give us size and style preferred and we will submit a sample shirt prepaid for your inspection and quote prices.

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. . . At a recent house fire of 14 rooms where the entire roof was burned off, with a $1,500.00 loss to house, our Shuredry Salvage Covers gave 100% protection to the bedrooms directly under the fire besides to all other furniture in the home. Not one cent was paid for water damage to contents.

No fire department is complete without a good supply of salvage covers, and firemen trained how to use them properly. We can always depend on our Shuredry salvage covers and are only too glad to recommend them.

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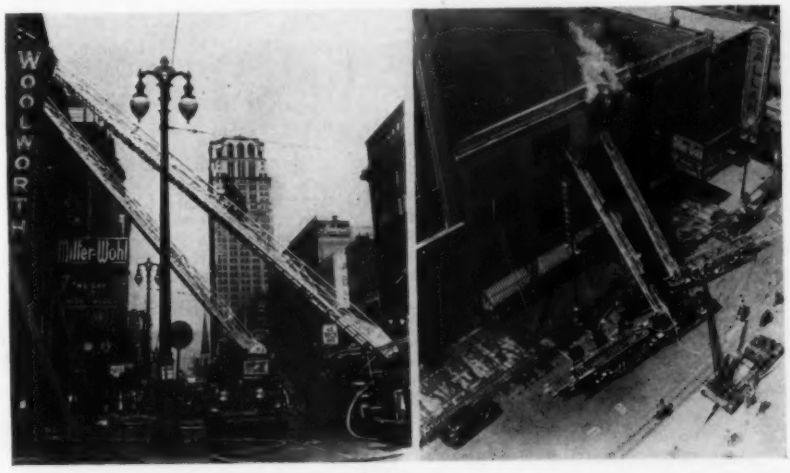
Detroit Fights Woolworth Fire

A large crowd of shoppers rushed to safety when fire broke out in a F. W. Woolworth store in Detroit, Mich., and endangered the safety of persons on the upper floors.

Chief Walter F. Israel, who directed the firemen, said that the blaze started in a vent in a kitchen on the fourth floor, and spread rapidly on that floor. A freight elevator which went out of service during the fire hampered the escape of fifty girls who worked on the upper floors. Firemen sent streams up the stair well at the time, and soon the elevator was back in service. High pressure fire towers were used to pour water on to the upper floors. Fire extended to the third floor which was used for storage.

Stock in adjoining buildings was slightly damaged.

Among the fifteen pieces of apparatus that responded were two new ladder trucks with steel extension ladders in use for the first time.



Views of the New Seagrave Power Raised, 100-Foot Aerials, With Closed Bodies Used at the Woolworth Fire in Detroit, Mich.

N. Y. Asks for Larger Budget

The Fire Department of New York City asks for 1938 budget allowance of $34,386,472, or $9,343,266 more than the amount for the previous year. Installation of the three-platoon system and the city's share of the department's pension plan accounts for more than $8,000,000 of the increase asked.

Commissioner McElligott explained that $4,142,932 of the increase was due to the three-platoon system and $4,000,000 to the fact that money appropriated by the city for the pension system appeared for the first time in the department's cash budget.

Placing Sprinkler Heads

Practice, as a means of acquainting firemen appointed in the Fire Department at Bridgeport, Conn., in placing temporary "heads" in sprinkler systems following fires in factories and large buildings where sprinkler systems are installed, has been added to that department's drill work. Bridgeport is the first city in Connecticut to adopt the practice.

The idea was conceived by Ladderman William Nolan, of Truck Company No. 3, who formed the practice sprinkler from discarded water pipe and placed it on a wooden platform. The pipe is extended four feet from the flooring. Two lengths of pipe are fitted into a union at the center. At each end is an open sprinkler head which allows the water to gush out when turned on from a feed pipe.

When the sprinkler is in action the new firemen ascend the platform and are instructed on where to place the temporary shut-off tool and cut off the supply of water. When the practice sprinkler was first demonstrated by Ladderman Nolan, several fire officials from neighboring cities approved of the hookup. The accompanying illustration shows Ladderman Nolan (right) instructing Fireman Joseph Addenbrooke, a "rookie," how to shut off a sprinkler.

Firemen Learning How to Replace Heads

THOMAS F. MAGNER.

Massachusetts Firemen Convene

Deputy Chief James J. King, of Lawrence, was re-elected President of the Massachusetts State Firemen's Association at the 58th annual convention which was held in New Bedford on September 14 to 16.

Other officers chosen were First Vice-President, Captain F. T. J. McNamara, Swampscott; Second Vice-President, John E. Reinhalter, Quincy; Sergeant-at-Arms, W. A. Adams, Worcester; Commissioner of $18,000 firemen's relief fund, Captain Michael F. Turner, Newton, and Directors, Chief William C. Mahoney, Peabody; Captain Michael J. McGonagle, Boston, and Louis A. Shea, Fall River.

The association went on record as favoring a 56-hour week as a maximum period of duty for firemen.

The convention opened Tuesday afternoon, September 15, in the New Bedford Hotel, with President King directing the proceedings.

Edward J. Coveney, of Boston, reporting as Commissioner of the $18,000 firemen's relief fund, pointed out the importance of making a record of any injury however slight because later on infection or complications might set in and without a recorded notation an injury benefit could not be claimed. Joseph Coleman, Boston, asked that more time at the conventions be devoted to discussion. A smoker and boxing bouts took place in the evening. Paul Harrington, Fall River Fire Department, acted as master of ceremonies.

On the second day of the convention addresses of welcome were delivered by City Solicitor Charles F. Archambault; John D. Pratt, President of the City Council, and Chief Edward F. Dahill, of the New Bedford Fire Department. Captain John H. Day, Lynn, replied in behalf of the association. State Senator Walter L. Considine spoke briefly and then Inspector George O. Mansfield, of the Fire Marshal's Division, Massachusetts Department of Public Safety, gave an interesting illustrated lecture on the detection of arson. He told many thrilling incidents in connection with the campaign to stamp out arson in the Bay State. In the past year there were 129 arrests for arson and 122 convictions.

A demonstration of home fire hazards including defective wiring and spontaneous ignition was given by Captain Norman Jones and Captain Frank G. Eldridge, of the Providence, R. I., Fire Department.

The annual memorial service was conducted by the Rev. Fr. John H. McCann, of St. James Church in New Bedford.

At the closing meeting a lengthy report was made by M. J. McGonagle, of the Legislative Committee, regarding the various bills of interest to firemen that were introduced in last year's session of the legislature.

The convention ended with a clambake at Lincoln Park. The annual meeting of the ladies' auxiliary was also held in New Bedford and the members enjoyed a bus ride to the Cape Cod Canal.

HARRY BELKNAP.

Gift for Greene, Ia.

The Fire Department of Greene, Ia., received a check from the Standard Oil Company as a memorial token for D. W. Munson, a fireman who lost his life while fighting a fire on the company's property.

Chief Gus Rehm Dead

Gus Rehm, who for the past thirteen years was head of the Mobile, Ala., Fire Department, died at a local hospital at the age of sixty-six, following several years of failing health.

He became a volunteer fireman on August 21, 1888. The paid department

The Late Chief Gus Rehm

was organized on September 1, 1889, and shortly afterwards he became a member thereof.

On July 3, 1918, Rehm was appointed Second Assistant Chief; First Assistant Chief on March 11, 1919; Chief on July 1, 1924. In all, he served forty-nine years in the department.

When he was appointed Chief, he attended a six-weeks' training course in New York City.

Chief Rehm is survived by his widow, one brother, and several nieces and nephews.

Chief Miguel, Manchester, Dead

Manuel S. Miguel, 65, Chief of the Manchester, Mass., Fire Department for 11 years and a member of the force for

The late Chief Manuel S. Miguel

29 years, died on October 3 at the Beverly Hospital following a short illness. Chief Miguel had contracted pneumonia after a major operation.

The Fire Department head came to Manchester from Cambridge 37 years ago. Chief Miguel enlisted in the American forces at the outset of the World War and served overseas throughout the conflict as an ordnance sergeant.

He was a member of the Gloucester Lodge of Elks, Frank B. Amaral Post, American Legion, and the Holy Name Society of Sacred Heart Church.

He was sergeant at arms for the Fire Chiefs Club of Massachusetts and a member of the New England and International Association.

He leaves a widow and two sons, Manuel S. Jr., and Arthur. Funeral services were held at his late home in Manchester Tuesday morning, October 5, followed by a solemn high mass of requiem at Sacred Heart Church at 10 o'clock. HARRY BELKNAP.

Wife of Chief Phelan Dead

Mrs. Mathilda Phelan, wife of Chief Nicholas A. Phelan, Pittsburgh, Pa., died at her home, following a serious illness, at the age of fifty-two. She was active in civic and church affairs.

Besides Chief Phelan, she is survived by three sons, six brothers, and three sisters, all of Pittsburgh.

Delaware Volunteers Meet

H. F. Sheldon, Talleyville, Del., was elected President of the Delaware State Volunteer Firemen's Association at the seventeenth annual convention held at Dover, September 8 and 9. Others elected are L. W. Walker, Clayton, Vice-President; Warren W. Pettyjohn, Dover, Secretary; Caleb Johnson, Magnolia, Treasurer.

The Chiefs who met at the same time elected Thomas E. Baker, Dover, President; William P. Bennett, Laurel, First Vice-President; Norris C. Phillips, Middletown, Second Vice-President; William A. Thompson, Wilmington, Treasurer, and Hughlett Golt, Dover, Secretary.

Zack W. Wells, Deputy Motor Vehicle Commissioner, commended the volunteer firemen for their unselfish spirit and interest.

The state firemen's memorial was dedicated during the meeting.

G. A. Glyer of the Wilmington schools, in charge of fire prevention work, explained the training the children receive in fire drills.

A parade was held as one of the features of the gatherings, and prizes were awarded.

Louisiana Firemen Convene

More than 250 firemen registered for the thirty-second annual convention of the Louisiana State Firemen's Association held at Plaquemine, September 16 to 18.

W. S. Bizell, Manager of the Louisiana Rating and Fire Prevention Bureau, said that the public is raising its estimation of the firemen and their work. A number of other talks were given during the meeting.

Chief J. C. McEachern, Haynesville, was elected President; Chief Rene Bernard, Thibodaux, Vice-President; Mayor Elward Wright, Houma, Secretary and Chief A. A. Hanson, Westwego, Treasurer. Chief Louis T. Kihnemann, Morgan City, delegate to the I. A. F. C. convention. The next convention will be held at Minden.

N. J. Firemen Raise Pay of Officers

At the annual meeting of the New Jersey State Firemen's Association held at Atlantic City, N. J., the delegates voted for pay increases for the officers and then voted to re-elect the present officers.

President Chris H. Hasselhuhn, Carstadt, receives an increase from $2,500 to $3,000; Secretary Evan F. Benners, Moorestown, $2,000 to $2,250; Treasurer Charles E. Burr, Bordentown, $2,500 to $3,000 and Auditor Charles J. Morris, North Bergen, $2,500 to $3,000.

Charles W. Greenfield, Arlington, was re-elected Vice-President, and George T. Everitt, Hackettstown, re-elected Financial Secretary.

It was reported that the state home for firemen has been enlarged to accommodate fifty more persons.

Iowa Firemen Honor Hedges

Chief Wright W. Hedges, Atlantic, was elected President of the Iowa Firemen's Association at the annual convention held at Atlantic, September 14 and 15.

The other officers are E. V. Lindquist, Des Moines, First Vice-President; Chief F. A. McCarthy, Emmetsburg, Second Vice-President; Chief M. G. Gunderson, Oelwein, Third Vice-President; Paul A. Soener, Independence, re-elected Secretary-Treasurer for his tenth year.

J. Vincent Pyle, who retired as President, and Mr. Soener, were presented with honorary life memberships.

During the convention there was a large parade, tournament contests, a banquet, and interesting talks at the meetings.

The next convention will be held at Belle Plaine.

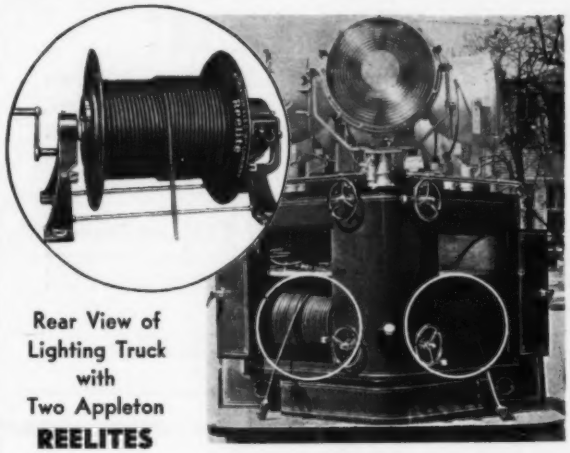
New York Buys More Apparatus

The Fire Department of New York City has awarded contract to The Ahrens-Fox Fire Engine Company, of Cincinnati, for twenty 1,000 g.p.m. pumping engines of the twin-triple piston type. These pumpers are to be furnished with cabs, rear wind-shields with "subway" type hand straps, and other innovations designed by the officers of the department under the direction of Chief and Commissioner John J. McElligott.

The first high-pressure engines of 600 lbs. pressure rating were built by Ahrens-Fox Company for the New York Department in 1927, and the pumpers covered by the present contract are of a similar type, but with the improvements in design since developed by the department.

The engines will be required to deliver 1,000 g.p.m. at 160 lbs. net pump pressure; 500 g.p.m. at 320 lbs.; 400 g.p.m. at 400 lbs., and 250 g.p.m. at 600 lbs. net pump pressure.

Contracts were also awarded to the Ward-La France Truck Corp., of Elmira, N. Y., for five hose cars, and to the F. W. D. Auto Company, for nine aerial trucks.



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and larger cities

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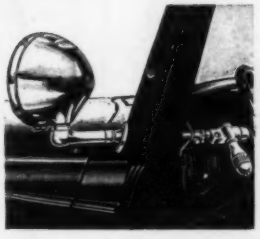
has been developed for emergency units and will positively clear traffic a great distance ahead. A powerful red beam, visible for two miles, is directed from side to side, covering more than the distance from sidewalk to sidewalk out ahead of the emergency vehicle.

This wig-wagging is accomplished by a newly developed and patented feature, and all moving parts are within the lamphead unit itself, therefore, not subject to damage or inefficiency caused by bad weather elements.



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Heavy Duty Fire Warning Beacon

To meet the exacting requirements of Fire Departments the Warning Beacon is supplied with a special red lens with large white, frosted letters "FIRE." This light is mounted at any convenient location at the front of the fire truck, where it will act as an immediate identification and warning to all traffic ahead.

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VAPOR NOZZLE KILLS FIRE

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REVOLUTIONIZES FIRE FIGHTING *with* **ACTUAL FOG**

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3/4 Usual Water Used. 9/10 Less Water Damage!

EXPELS 75% LESS WATER

Kills instantly Oil—Gasoline—Lacquer—Varnish and ALL other High VOLATILE FIRES!
Can be efficiently operated by one man up to 200 lbs. pressure. Fog, Straight Stream and Shut-Off. Made in five different sizes, they meet all requirements. Prices range from $12 to $30.

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For the best in Hose Valve Value—take Ross! They protect your hose men, lines and apparatus from any shock due to the pump or shutting down of streams! And they maintain any desired pressure (up to 250 lbs.) at the nozzle!

For use on high pressure fire hydrants, standpipes in tall buildings, and on motor-driven fire apparatus. Hose threads to specifications.

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HELL and HIGH WATER!

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CONFLAGRATION

The City of Wheeling, W. Va. has the answer. A CENTRIDRIVE FIRE TUG, engineered for the job, 860 gallons per minute, draughting but 20″ of water, a heavy duty pumper afloat, complete with a trailer for rapid transportation, equipped with the famous DELUGE fire pump. CENTRIDRIVE FIRE TUGS for towns large and small.

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A HEAP SAFER
with
COVER'S DUPOR CHARCOAL RESPIRATOR

$48 Dozen
Sample: $4 postpaid

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Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

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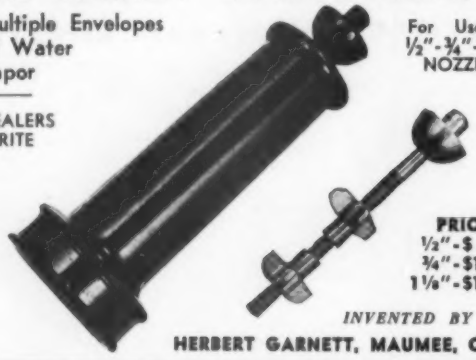

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The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.

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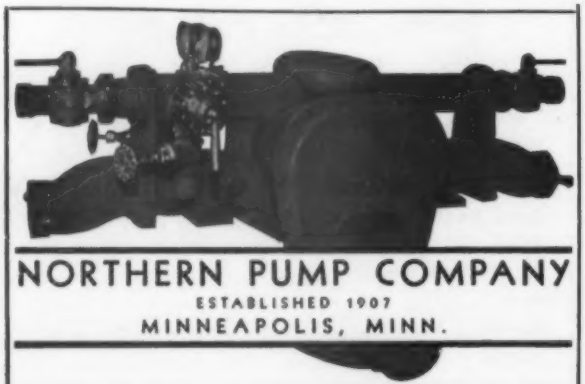

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MINNEAPOLIS, MINN.

In the Market for New Equipment?

READ through the advertising pages of FIRE ENGINEERING. They're your most dependable guide.

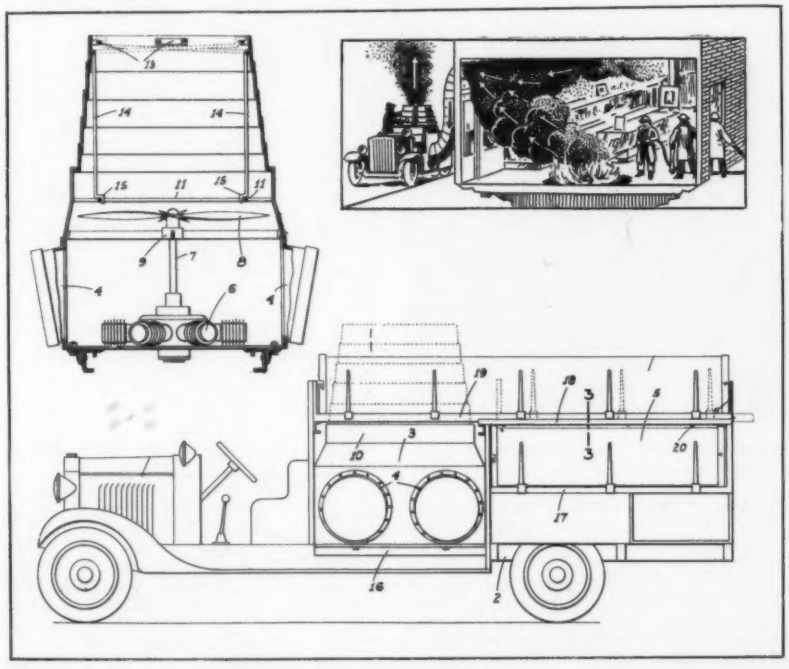
If what you want is not being advertised, turn to page 577 of this issue and use the coupon.

NEW SMOKE EXHAUSTER DEVELOPED BY CAPTAIN OF SACRAMENTO DEPARTMENT

Blower To Be Driven by Three-Cylinder, Four-Cycle, Radial Airplane Motor of 40 H.P.

CAPTAIN L. C. MOORE, of the Sacramento, Cal., Fire Department has designed, and has patented (Patent No. 2,078,580), a smoke exhauster to be used at fires. The machine is unique in that it employs a 3-cylinder, four cycle, radial airplane motor for driving the airplane propeller which constitutes the blower. The complete unit—motor and blower—is built either for portable use or for mounting on a truck.

one fireman fastens the flexible collar to the opening, and while he is doing this, another fireman zipps it closed to the other end. It is then ready for another conduit. The conduits will be made with fireproof material, reinforced with flexible steel bands and runners with flexible steel collars. The conduits will be fastened to the opening and to each other by steel spring clamps, one on each side.



New Smoke Exhauster

Upper left: Cross section of blower showing airplane motor (6) connected to propeller (8). Upper right: Smoke exhauster shown in position, and operating. Lower: Side view of exhauster unit in position on truck chassis.

The machine, with fittings, is illustrated in the sketches herewith. As shown therein, the motor is placed horizontally with the drive shaft for propeller set vertically. Smoke is drawn in at either side and discharged through the top.

The complete equipment, mounted on motor truck, is also illustrated. Such a unit will be equipped with a booster pump and a 260 gallon capacity water tank, 250 feet of 1½-inch chemical and 250 feet of 1½-inch rubber lined, cotton jacket hose, ropes, ladders, pads and other equipment.

The driver's seat will be housed in with a cab top. The conduits will be carried flat, or knocked down. They will be nested one within the other. Conduit equipment will include six of 10-12 feet length, carried on the top rack, and six of 6-7 feet length, carried on the lower rack.

When a section of conduit is lifted off,

The complete motor truck units, as well as the portable sets, will be built at a plant in Sacramento.

Change in Connecticut Forestry Service

The new merit system passed by the Connecticut State Legislature at its 1937 session is forcing reorganization of the entire fire-fighting system of the State Forestry Department. Men throughout the state who serve as district fire wardens or deputy district fire wardens must, if the letter of the merit system act is followed, either refrain from local politics or lay themselves open to discharge from their state jobs.

Forty-five per cent of the men now engaged in forest fire work in Connecticut are town officers, according to an estimate by Deputy State Fire Warden C. H. Lathrop. Many make their living from town jobs and will drop the state job, if it comes to a choice.

District fire wardens, of whom there are 138 in the state of Connecticut, one for each forest fire district, receive the sum of $10 per year from the state, if they submit a bill for any expense of service other than actual fire fighting. The district fire wardens and their deputies alike get 60 cents per hour, when actually fighting forest and brush fires.

They are, however, state employes appointed annually by State Forester Austin F. Hawes. As such the Attorney General's office has held them to be in the classified service of the state government. The district wardens are called upon by the Forestry Department to make some routine reports of fires in their area.

The deputies act if the district warden is away and are on the call list when hands are needed to fight fires in the woods.

According to State Forester Hawes, the fire wardens should have been exempted by the General Assembly. The Forestry Department was never aware, while the merit system act was being drawn and debated, that its district wardens and deputies were to be affected.

A check of the Hartford County warden list against the names of town officials in the state manual shows nine of the twenty district wardens in the county are now holding town office. Thirteen of the 100 deputy wardens in the same county also are town officials. The Forestry Department has chosen in many cases men who, as constables and selectmen, were likely to spend most of their time around the town, so that the men would be quickly available for fire work and be recognized as leaders in their community.

THOMAS F. MAGNER.

Quigley Honored by New Haven "Plan"

Seventy-five members and guests of the New Haven County Fire Chief's Emergency Plan attended the monthly meeting of that organization which was held in the quarters of Engine Company No. 4 at Hamden, Conn., on September 21. The meeting was presided over by President John S. Pachl, of New Haven.

After the business meeting was concluded President Pachl called on First Selectman William Balke and Fire Commissioners Thomas F. Miller, Albert Ruett, Fire Chief Charles P. Loller and Assistant Chief Raymond P. Spencer for remarks.

During the evening motion pictures showing how the Boston Fire Department is maintained, the workings of the Fire Alarm Telegraph, Repair Shops, Drill School and numerous fire scenes were presented to the gathering.

In connection with the showing of the pictures, Deputy Chief William Quigley, in charge of the Second Division of the Boston Department, gave a splendid talk on "Fire Department Operations." Deputy Chief Quigley was made the first honorary member of the New Haven County Chief's Plan. The next meeting of the Plan will be held at the Prospect Beach fire station in West Haven, Conn., on October 19.

THOMAS F. MAGNER.

Carlin's Park, Baltimore, Fire Swept

A $250,000 fire swept Carlin's Park in Baltimore the morning of September 30. Five of the principal buildings of the amusement park were leveled before firemen could control the blaze.

The fire started in the Sports Arena, a large frame building. It quickly spread to adjoining buildings under a strong breeze. Chief Howard Travers arrived on the third alarm and ordered a total of ten alarms sounded. Thirty engines, six trucks, and one hose company rolled.

Long leads were necessary to get water to the fire, as there are only two plugs on the park property. The wide space of the midway prevented the fire from sweeping through the entire park. Three firemen were injured, two were burned and the third suffered a broken arm when he fell from an engine.

Cause of the fire is not known. A watchman discovered the fire at about 3.30 a.m. and a box alarm was sounded at once. A crowd of roller-skaters had left the building a short time before the blaze was discovered. Because of the high rates no insurance was carried on any of the buildings. The park is owned by John Carlin, who lives on the property. OTIS SMITH.

Ruins of Fun House, Carlins Park, Baltimore. Dancing Palace in Background

Norwood Church Damaged

The Norwood United Church, in the town of Norwood, about 20 miles west of Peterborough, Canada, was completely gutted by fire. The church was built of stone, and although it was valued at $100,000, only $19,000 of insurance was carried.

Several workmen were working in the bell tower, when they noticed the blaze. They rang the bell to attract the attention of the townfolks, and when the volunteer Fire Department arrived, they formed a bucket brigade and attempted to fight the fire that was already through the roof.

A call for help was sent to Peterborough Fire Department, which arrived with nine men and a triple combination pumper. Hastings sent a steamer.

The roof crashed in, and after six hours of hard fighting the fire was out. Volunteers removed most of the furniture and furnishings from the church and Sunday school. Several volunteers were overcome by smoke. Chief Gimblett of the Peterborough Fire Department gave great praise regarding the good work done by the Hasting Volunteer Department with their steamer.

JOHN KARL LEE.

Fire Sweeps Factory

Fire badly damaged the plant of Purex Products, Inc., in Baltimore, Md., on September 2. A watchman in an adjoining plant discovered the fire at 3 a.m., and sent a box alarm. Three engines, one truck, and one foam company responded under command of a Battalion Chief.

A total of five alarms were sounded as the blaze menaced other plants, including the Hires Turner Glass Company which is next door to the Purex plant. A large store of alcohol in an annex of the damaged plant was untouched.

Chief Howard Travers was in charge of the fifteen engines, five trucks, and one foam company on the scene. Emmett Holthaus of 55 Engine suffered burns on both hands when flames licked out through a broken window. An engineman was "knocked-out," when fumes from the exhaust of his own pumper affected him. Fire was out in two hours. Damage to the building was estimated at $15,000. OTIS SMITH.

Ready for More Toys

New and more extensive equipment has been ordered by the Fire Department of Albuquerque, N. M., in preparation for its fourth annual toy campaign. If present plans are carried out, the department will have four to five thousand toys for distribution at Christmas.

N. Y. Volunteers Meet

Most of the Hudson Valley communities, and some of the towns in Connecticut, participated in a parade held at Ossining, N. Y. The parade, led by Chief Leonard Whiting, of Ossining, was witnessed by a large number of persons. The prize for the best appearance was awarded to the Harrison Fire Department, and Peekskill was given the prize for the best fire patrol.

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of September, 1937. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending September 30	Loss in Thousands of Dollars
Cleveland, Ohio—Whse. of Peerless Rubber Co., damaged	$ 50
St. Barnabee, Que.—Eight buildings destroyed	80
Coachella, Cal.—Property of California Cotton Oil Corp.	50
Rochester, N. Y.—Three barns on Brown Hill Farm—Mumford Rd.	50
Las Cruces, N. Mex.—Wilson Hall of New Mexico State College	50
Flint, Mich.—F. W. Woolworth Store, destroyed	125
Hollywood, Cal.—Ranch studio of Universal Film Studios	50
Indianapolis, Ind.—Phoenix Lumber & Hardware Co., damaged	50
Greenwich, N. Y.—Dwelling and other buildings on Rigger Farm, north of Bald Mountain	50
Eureka, Cal.—Log Cabin Bakery destroyed	50
Arcadia, Fla. — Sub-Exchange Packing House destroyed	80
Salem, Va.—Plant of Moore Milling Co., damaged	90
Pine Valley, N. J.—Dwelling on Virginia Ireland Hearn estate	100
Three Rivers, Mich.—Eddy Paper Corp. damaged	50
St. Matthews, Ky.—Holy Trinity Catholic Church damaged	125
South Attleboro, Mass.—Plant of Joseph Charpentier Mfg. Co.	125
San Francisco, Cal.—Plant of Standard Oil Company, damaged	250
Portland, Conn.—Factory of Rogers and Hubbard Co.	125
Cleveland, Ohio—Whse. of Peerless Rubber Co., damaged	50
St. Barnabe, Que.—Eight buildings destroyed	85
Hamburg, Pa.—Plant of Pennsylvania Electric Steel Casting Co.	80
Huntsville, Ala.—Property at Madison County Fairgrounds	120
Cap St. Ignace, Que.—Methot Brothers spinning mill	60
Paterson, N. J.—Hudson's apparel shop, E. 35th St.	70
Chicago, Ill.—Main building of Swift & Company damaged	120
Royal Oak, Mich.—Campbell building damaged	50
Baltimore, Md.—Several structures at Carlin's Amusement Park	200

Urbana Fights Tar Fire

Many members of the Urbana, Ohio, Fire Department bore blisters as evidence of the fight they had in controlling a fire which broke out in the State Highway Garage.

Fire followed an explosion of a 16-000-gallon capacity storage tank, filled with about 2,000 gallons of tar. Blazing tar was scattered over a wide area. Flames spread to more than fifteen drums of tar that were stored in the building.

The blast came while an employee was drawing tar from the large tank to a 500-gallon tank below. A torch was being used to heat the tar, so that it would flow easily. It is believed that the torch flame ignited fumes from the tar.

Vapor nozzles, which the department recently acquired, proved effective in controlling the fire.

FALSE ALARMS

WHEN YOU HAVE JUST FINISHED CLEANING UP AND ARE TAKING THINGS EASY, IN COMES MISS FRIPP WITH HER KINDERGARDEN CLASS. AINT LIFE ! H--L
Chriswell

SHORT-HAUL LEARNING

An old darky was watching some of the firemen go through their evolutions at the drill tower back of the headquarters station. He remarked to the drill master:

"Dese yere boys is mighty lucky. Dey is much better off than my boy Ezekial."

The drill master seemed surprised.

"And in what way are they better off, Sam."

"Well dese yere boys dey goes to school and de place dey works is right near the school. My boy Ezekial he has to go to school two miles from heah. Dat boy done fo'gits all de teachah tells him fo' he git half way home."

A city and a chorus girl
Are much alike, 'tis true:
A city's built with outskirts,
A chorus girl is too.

QUICK UPBRINGING

Firemen are used to exercise authority rather than to take orders—especially from an elevator man.

A fireman walked into an elevator and said, "Fourth floor, please." He was on his way to report the result of a fire inspection.

"All right, son," answered the flippant elevator operator.

"Son," said the other in amazement. "How dare you? You're not my father."

"Well, I brought you up, didn't I?"

Give a woman an inch and she'll buy a new girdle.

SMALL WANTS

Boy, was that a night! He had sneaked off with a few of the boys to have some fun away from the dry, convention meeting. He had succeeded. Now it was morning, and he was tired but still happy. He entered a store, and a polite salesman asked:

"What is your pleasure?"

"Drinking and necking, if you are interested, but just now I want to buy a tie."

Accident statistics show that the most dangerous place in an automobile is the seat beside the driver. Divorce Court records prove the same analytical conclusions.

A COMPLIMENT

Small boys worship fire stations. In the summer when the doors are open, they love to peer in and admire the shining apparatus. As boys are imitators of adults, one of the youngsters in the neighborhood acquired a rather strong vocabulary.

A passerby was shocked to hear one of the young fire fans express himself. She asked:

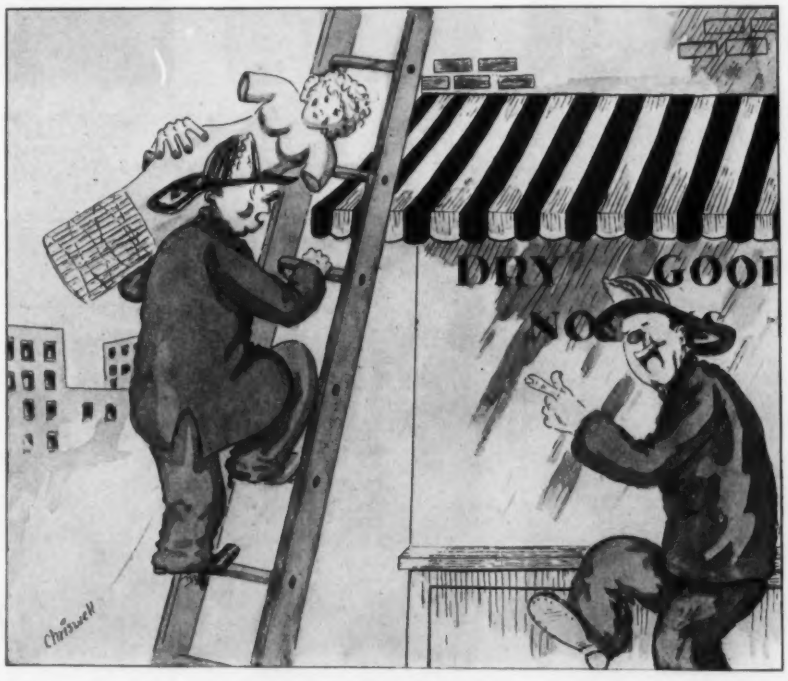
"What would your mother say if she could hear you swear like that?"

The boy answered, "She'd be tickled to death if she could hear it."

The woman was surprised. After a brief, breathless moment she asked, "Why?"

"She's stone deaf," said the boy.

Manicurists are a lucky bunch, not because they have so many men at their finger tips, but because they always know where their hands are.



Time to Laugh at the Life of the Firemen

Many humorous things happen during the course of a day in a Fire Department. Here are two incidents drawn by Mr. Chriswell, one of the younger members of the Beaumont, Tex., Fire Department. Mr. Chriswell, a member of the department for the past three years, is a protegé of Chief S. D. O'Connor, who said, "While he is one of my best men, he is working toward a career as a cartoonist and we all wish him well."

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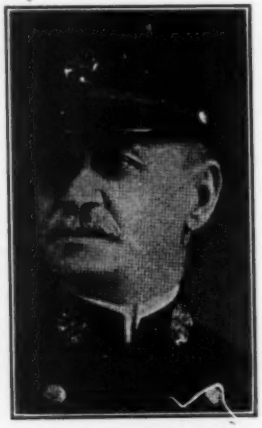

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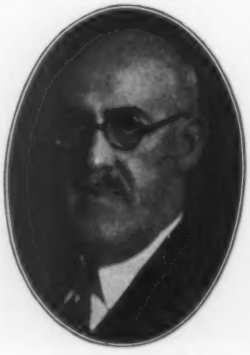

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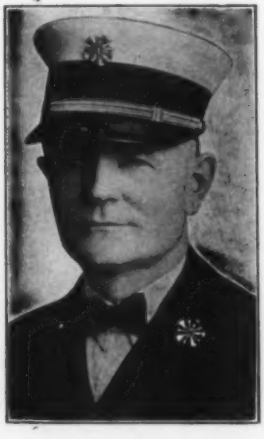

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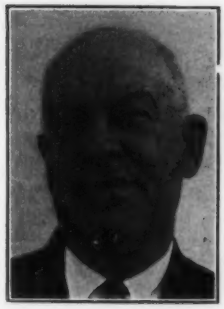

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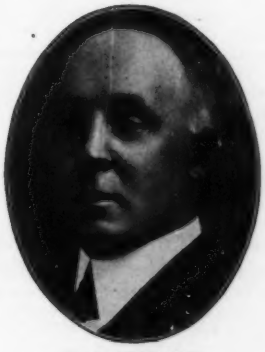

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Bids Wanted, For Sale and Help Wanted $5 *per inch. Position Wanted,* $2.50 *per inch*

For Sale

American-LaFrance 1914 City Service Hook and Ladder. All equipped—in good condition. Glen Ridge Fire Dept., Glen Ridge, N. J. Phone: Glen Ridge 2-5522.

CONVENTION DATES

Oct. 12-14—ILLINOIS FIREMEN'S ASSOCIATION. 50th (Golden Anniversary) Convention, Danville, Ill. Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill.

Oct. 19-21—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, North Platte, Neb. Secretary-Treasurer, Louis A. Novak, Box 788, Norfolk, Neb.

Oct. 19.—NEW HAVEN COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Prospect Beach Fire Station, West Haven, Conn. Secretary, Chief Edward Pracny, Wolcott, Conn.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 65th Annual Conference. Headquarters, Biltmore Hotel, and Exhibits and Sessions, New Municipal Auditorium, Oklahoma City, Okla. Secretary-Treasurer, Ex-Chief James J. Mulcahey, 16 Franklin Ave., Yonkers, N. Y.; Chairman, Exhibits, Chief Ray Tiller, Waterloo, Ia.

Oct. 20—FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Fairfield Fire Headquarters, near Tarrytown Road, White Plains, N. Y. Secretary, Captain Howard Geer, Rye, N. Y.

Oct. 27-28—INDIANA STATE FIRE SCHOOL. 4th Annual School, Purdue University, Lafayette, Ind. Director, Dean W. A. Knapp, Engineering Extension Dept., Purdue University.

Oct. 28—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Long Ridge, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

Nov. 24—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting Turn-of-River, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

Dec. 22—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Bethel, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

Jan. 26, 1938—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Stamford, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

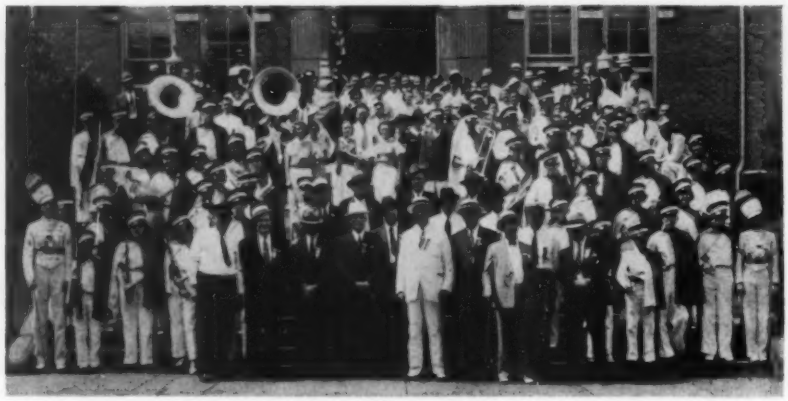
Laws Affecting N. Y. Volunteers

The Nassau County Firemen's Association is distributing a folder prepared by Seth T. Cole, Chairman, Legislative Clearing House of New York State's Volunteer Firemen, giving "A Summary of 1937 Legislation Affecting Volunteer Firemen." This folder lists all the changes in the laws of the state as they affects the welfare of the volunteers.

Department and Other Reports Received

Brockton, Mass.—Annual report of the Chief of Fire Department and Superintendent of Fire Alarm, Brockton, Mass.; eighty-four pages.

New Jersey State Firemen's Association—Proceedings of the fifty-ninth annual convention of the New Jersey State Firemen's Association held at Atlantic City; 186 pages.



Convention Photograph of Tennessee Firemen's Association

Front row, left to right: W. D. Rogers, Historian; J. M. McCormick, Speaker, Commissioner of Ins., State of Tenn.; Luther Luton, Speaker, Commissioner of Fire, Nashville; W. J. Sams, President; Irby Klinck, Ex. Vice-President; John E. Garner (in White), Mayor of Springfield, Tenn.; B. S. Mattingly, Retiring President; Joe J. Martin, Secy.-Treas. (with Cane); R. L. Lawrence, Speaker, Supt. Water Works, Nashville.

Second row, left to right: Chief Ross Bridges, Past President; J. W. Weaver, Retired Chief, Nashville; K. K. Eslick, Vice-President, Middle Tenn.; W. P. Beard, Past-President; C. C. Geisler, Former Vice-President, "East Tenn."; B. C. Hunter, Past-President; Frank Murphy, Chief, Springfield (in White Cap).

Sams Heads Tennessee Firemen

W. J. Sams, Assistant Chief, Knoxville, Tenn., was elected President of the Tennessee Firemen's Association at the seventh annual convention held at Springfield, September 7 to 9. The gathering was one of the best ever had and more than three hundred persons registered.

The other officers elected are Chief Irby Klinck, Memphis, Executive Vice-President; Chief J. E. Wardrip, Jefferson City, Vice-President East; Chief K. K. Eslick, Fayetteville, Vice-President Middle; Chief B. B. Shaw, Brownsville, Vice-President West; Joe J. Martin, Nashville, Secretary-Treasurer; W. D. Rogers, Tennessee Inspection Bureau, Nashville, Historian.

The 1938 convention will be held at Monteagle, Tenn. The date has not been set.

Temperature of Burning Buildings

Some time ago the problem was presented to an engineer to compute the correct size of safety valve for use on a pressure vessel containing liquid so that, in the event of a fire, the valve would be large enough to discharge the entire contents of the vessel within a given time. An explosion would thereby be prevented.

The engineer wrote a note to the consultant of the company and asked, "How hot does it get in buildings while they are burning down?" all of which the consultant immediately characterized as a "fool question."

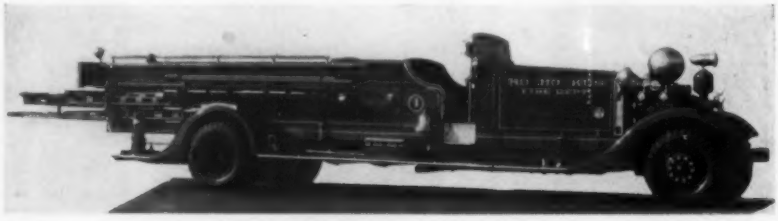
However, it was not and is not a fool question. Knowing the outside temperature, knowing the quantity of liquid in the vessel, and knowing the area of heating surface, it is possible to arrive at a close figure for the rate of generation of ammonia gas, methyl Chloride, carbon dioxide, freon, steam, etc., under that temperature, and thus the size of safety valve is rationally determined. The gas can escape without causing dangerous pressure.

The consultant finally had to admit that, after all, it was a sensible question, and he was also obliged to admit that he didn't know.

Whereupon the engineer decided that he would find out. He went to many sources of information. After much searching he learned from a large manufacturer of fireproof safes that the average temperature of burning buildings is 1,700° F. The safe makers arrived at this figure by noting that where there is any brass in the building the brass either is not melted, or, it is just on the verge of melting. Brass melts at 1,700° F.

Possibly this information will prove helpful to others.

W. F. SCHAPHORST.



New Pumper Delivered to Borough of Hohokus

The Borough of Hohokus, N. J., has recently received from The Ahrens-Fox Fire Engine Company a quadruple combination with twin-triple piston pump of 750 g.p.m. capacity, hose body with capacity of 1,200 feet of 2½-inch hose, 100-gallon booster tank, and 210 feet of ladders. The power plant is an Ahrens-Fox dual valve-in-head six cylinder motor, developing 190 b.h.p. at 1,650 r.p.m.

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10-37

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We will present the complete Elkhart Line of Modern Fire Department Equipment.

For 35 years the Elkhart organization has been known for advanced engineering, fine workmanship and uniformly high quality in every product.

It will be a pleasure for us to greet old friends and meet new customers at the convention of the International Fire Chiefs Association, Civic Auditorium, Oklahoma City, September 19th to 22nd.

ELKHART BRASS MFG CO
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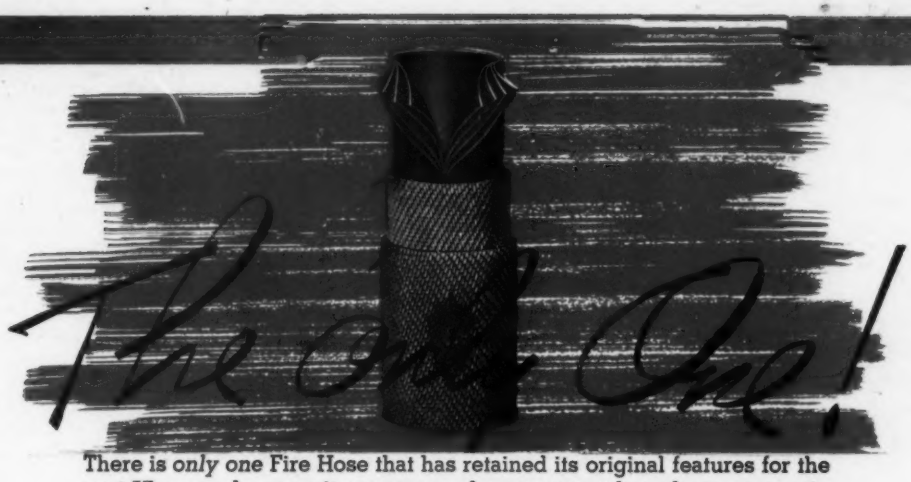

There is *only one* Fire Hose that has retained its original features for the past 57 years—because its SAFETY and RELIABILITY have been proven in service. Wax and Para Gum Treated Hose has demonstrated its superiority in the nation's leading Fire Departments. Other manufacturers have imitated but never successfully duplicated Fabric Fire Hose because Fabric is the originator and patentee of the Wax and Para Gum Treatment, and is the *only* manufacturer that offers in one Fire Hose these seven outstanding features:

1 Finer grade cable-twisted yarn providing greater burst-resistance without increased weight or bulk.

2 Twill-weave construction giving more resistance to wear and abrasion ...more flexibility...lighter weight...no twisting and kinking under pressure.

3 Moisture-proof...mildew- and rot-proof...no freezing or resultant cracking.

4 A naturally smooth interior free from corrugations—hence greater pressure where you need it...at the nozzle.

5 Longer life because of Slow Aging, Scientifically Compounded Rubber Lining.

6 Smooth exterior that glides over and around sharp corners...longer useful life of jackets.

7 Easily packed...occupies less space.

Send for materials for conducting a simple test that will prove to you the superiority of Fabric Wax and Para Gum Treated Fire Hose. Fabric Fire Hose is available only through direct representatives of

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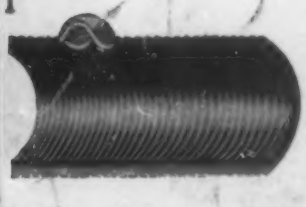
EUREKA Multiple Woven 4-ply Fire Hose—heavy duty—four distinct plies of tubular woven —contains smooth interior filler ply—new and improved lap-seam, long-lived rubber lining.

Eureka *Streamlined* FIRE HOSE

How the "Smooth Interior Filler Ply" helps create a Streamlined Fire Hose.

1



Subject an ordinary hose to hydraulic pressure and interior wall will be forced into a corrugated or "washboarded" condition. (See illustration No. 1 at left.) This condition causes excessive friction loss and consequently less water pressure at the nozzle—a weak fire fighting stream.

For a full, vigorous, strong fire fighting stream—with maximum pressure at nozzle due to minimum friction loss, a fire hose must have a smooth, streamlined waterway. Therefore Eureka Fire Hose has an individual set of warp and weft cords which fill in the valleys of the inner ply into which the rubber lining would ordinarily recede when hydraulic pressure is applied—and this set of cords is called "The Smooth Interior Filler Ply" (see illustration No. 2 at the right)—an exclusive Eureka feature.

2

Bomb-Tested Rubber Linings—Eureka new and *better* rubber lining with improved lap-seam... 4 plies of specially developed long-lived rubber... calendered into one homogeneous body... proved far superior by the Bomb Test—a scientific method of predetermining the aging characteristics of rubber goods. See illustration No. 3 at the left.

Mildew Proof Fabrics—All fabrics used in the different brands of *Eureka* Fire Hose are antiseptically treated to prevent the formation of mildew and rot. This exclusive Eureka mildew repellant solution does not add to the weight of the hose nor make the hose hard to handle.

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EUREKA FIRE HOSE

Division of United States Rubber Products, Inc

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